

The Effects of a Brief Intervention Workshop on Emotional  
Regulation and Well-being: Stress, Happiness and  
Depressive Symptoms

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Christina Marie Clare Bond

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## **Abstract**

Emotional regulation skills have far-reaching implications for enhancing people's well-being. This study developed a brief intervention workshop with the aim of enhancing emotional regulation skills and well-being (increasing happiness and ability to cope with daily hassles, as well as reducing stress and depressive symptoms). Twenty-four participants from an adult community and workforce population were recruited into three groups; an intervention group (IG), a waitlist control group (WCG) and an active control group (ACG). Participants were randomly assigned (RA) or self-selected (SS) to either the intervention group (IG: n = 11 (RA: n = 5, SS: n = 6)), or a waitlist control group (WCG all RA: n = 5). The third active control group (ACG: n = 8) consisted of participants attending other professional development courses. Participants completed questionnaires assessing emotional regulation (cognitive reappraisal, expressive suppression, acceptance, reappraisal, rumination, catastrophising and positive refocusing) and well-being (perceived stress, depressive symptoms subjective happiness, life satisfaction, positive and negative affect and daily hassles) at pre-test (Time 1) and post-test (Time 2: 2 weeks after the workshop) and follow-up (Time 3: 6 weeks after the workshop). The results indicate, that after the brief intervention workshop, the intervention participants experienced improvements in some emotional regulation skills and their well-being increased. Significant changes were found in the predicted direction, two to six weeks after the intervention, in the intervention group as compared with minimal change in the control groups for the following variables: cognitive appraisal, reappraisal, positive refocusing, stress, depressive symptoms, happiness, life satisfaction, positive affect and perceived ability to cope with daily hassles. However, further research is required to validate and generalise these findings, predominantly due to the small sample size. These results have valuable implications for New Zealand society due to the substantial impact and cost-effectiveness of this brief intervention.

# **1 Introduction**

## **1.1 Overview**

The field of affective science has developed rapidly over the past forty years; it is one of the fastest growing areas of psychological research (Barrett & Gross, 2013). Together with advances in neurobiology, affective science has significantly progressed knowledge and understanding of human emotion. The rise in research on emotions has led to robust evidence of the extensive impact emotions have on quality of life (Manju & Basavarajappa, 2017; Schutte, Malouff, Thorsteinsson, Bhullar & Rooke, 2007). This has resulted in considerable interest and specific research on the role, importance, and influence of emotional regulation. The ability to regulate emotions has many positive benefits for individuals and society as emotions significantly influence physical health, mental health, longevity, psychological growth, well-being, employability, social relationships, marital satisfaction, happiness, perceived stress, positive affect, personality traits, likeability and more (Jeong, Aldwin, Igarashi & Spiro, 2016; Gross, 2014; Kotsou, Nelis, Grégoire, & Mikolajczak, 2011; Neils et al., 2011; Páez et al., 2013; Quoidbach, Gross & Mikolajczak, 2015; Ruiz-Aranda & Pineda-Galan, 2013; Weytens, Luminet, Verhofstadt & Mikolajczak 2014). Whereas an inability to regulate emotions can lead to less desirable behaviours such as aggression, violence and psychopathology (Gross & Jazaieri, 2014; Robertson, Daffern & Bucks, 2014).

## **1.2 Emotions**

Emotions are states which direct attention and deliver information about the environment to address adaptive problems, aid social interactions, contribute to decision making and facilitate behavioural responses (Gross, 1998; Gross 2014). Gross & Thompson, (2007) converged key elements and theories of emotion to develop a model to define emotions. The model suggests emotion is triggered by a situation, which has been given attention, is appraised and then a response follows, which can lead back to a new or modified



situation. This model of emotion is underpinned by two core features of emotions. Firstly, emotions surface when individuals pay attention to and evaluate a situation, based on a current goal. The meaning that is attributed to the situation depends on the nature of the goal, which influences what emotion arises (Gyurak, Gross, & Etkin, 2011). For example, if one pays attention to their mother in the kitchen, based on an active goal of wanting dinner, the resulting emotion may be anticipation regarding when dinner will be ready. The second feature, consistent with other theories on emotion, is the multifaceted nature of emotions. Emotions are both a subjective and physiological experience, and influence behaviour (Gross, 2014). For example, a person wanting dinner, may experience anticipation, their stomach may physically rumble, and they may move towards the kitchen. Once an understanding of this model of emotion exists, emotional regulation can be better comprehended.

### **1.1.2 Emotional Regulation.**

Emotional regulation is the process of influencing which, when and how emotions are experienced and expressed (Gross, 1998). Emotional regulation refers to the ability to manage and control what emotion is expressed, when it is expressed and how it is expressed to shape an emotional experience. For example, after receiving a good result on a test an individual may initially experience excitement yet choose to express satisfaction while in the classroom. When alone the person may then express their excitement by smiling to themselves and experiencing joy. This illustrates a person able to manage and control their emotional response to a situation. Emotion responses only arise when events are meaningful to an individual and relevant to their goals. (Barrett, Lewis & Havlind-Jones, 2016). If an individual does not care about the results of a test, they may not experience an emotional response.

The regulation of emotions is defined by three core features; goal, strategy and outcome. The activation of a goal is related to modifying the process of emotion generation to

influence an outcome (Barrett & Gross, 2011). Using the same example, an individual may not want to express excitement about their test results yet instead their goal is to make their friend feel better about their lower test score. The engagement of processes responsible for altering emotion trajectory is about what strategy is used to influence the outcome. In this example, the individual has suppressed excitement, and expressed satisfaction. The outcome itself refers to the dynamics of emotions such as the duration, latency and intensity of the resulting emotional experience, based on the individual's goal. The individual may experience intense happiness and excitement during the length of the car ride home. These three features encapsulate the process of emotional regulation.

To provide a framework of emotional regulation, Gross (1998), developed the Process Model of Emotional Regulation (PMER). The PMER separates five key focus points of emotional regulation; situation selection, situation modification, attentional deployment, cognitive change and response modification. Emotional regulation strategies can be employed within these five focal points, at three different points in time: before, during and after an event. These focal points are used to determine when and how is most effective to intervene to enhance the experience of positive emotions. Understanding the PMER can assist people increase emotional regulation ability, by strengthening their beliefs that emotional regulation is possible, and understanding the different times and strategies that can be used for regulation of emotions (Quoidbach et al., 2015). The PMER has been used to develop training programmes to enhance participants' emotional regulation, happiness and well-being (Weyten et al., 2014; Leblanc, Uzun, Pourseied, & Mohiyeddini, 2017). Various studies have shown long-lasting positive effects of enhanced emotional regulation skills from training on life satisfaction, subjective well-being, social relationships, physical and psychological health (Neils et.al, 2011, Ruiz-Aranda & Pineda-Galan, 2013; and Quoidbach et al, 2015).

Building on this model, Etkin, Buchel and Gross (2015) propose the experience of an emotion involves a cognitive appraisal that a stimulus has positive or negative value, according to the specific context of the situation. This then leads to an action, which can be framed as the perception-valuation-action (PVA) sequence. For example, a snake appears, this is perceived as dangerous, fear is experienced, fear is valued as a positive emotion because it prevents one from danger by leading to an action of running away. It is important to understand this sequence as it can become distorted causing emotional dysfunction. Emotional regulation becomes a part of this cycle when people can evaluate that a particular emotion is not serving them. Using the same scenario, if the appearance of the snake was only a picture, and fear elicited an action of running away this emotion would interfere with the person's ability to behave adaptively and lead a happy life. In this case, fear needs to be valued as an unnecessary response, as there is no threat of a snake bite from a picture. Whether innate or learned, emotional responses can be regulated, changed and adapted (Gross, 2014).

### **1.1.3 Emotional Regulation Strategies.**

There is significant supporting evidence on effective strategies that enhance emotional regulation by lessening, increasing or maintaining an emotion (Talaei-Khoei et al., 2017; Hoorelbeke, et al., 2016). Seven core strategies regularly employed to regulate emotions are; acceptance, cognitive reappraisal (and positive refocusing), problem-solving, rumination, distraction, avoidance and suppression (Peña-Sarrionandia, Mikolajczak, & Gross, 2015). Empirical evidence supports the effectiveness of some of these as positive strategies to regulate emotions (Kotsou, et al., 2011; Clen, Mennin, & Fresco, 2013). Acceptance of an emotional experience, especially when the situation cannot be easily changed, is a powerful emotion regulation strategy. Research has shown acceptance can lead to a decrease in negative emotions, reduction in pain and provides physical immunity (Burns et al., 2002;

McCracken & Eccleston, 2003). However, despite its benefits, this strategy is not used as frequently as reappraisal (Aldao, Nolen-Hoeksema, & Schweizer, 2010). Cognitive reappraisal is just one form of positive refocusing, which refers to evaluating a situation in a more positive way. This could be looking at the situation from another perspective, changing one's interpretation or meaning of the event, or looking at the positive elements of the situation. Positive reappraisal effectively decreases negative emotion and enhances well-being (Kotsou, et al., 2011; Webb, Miles & Sheeran, 2012).

Distraction is also considered an effective strategy for reducing negative emotions. Distraction refers to deterring one's attention from negative thoughts to neutral, or positive thoughts, or averting attention from the emotional aspects of the situation (Sheppes Suri, & Gross, 2015; Peña-Sarrionandia et al., 2015). Research has shown this strategy is particularly effective when people are experiencing emotions of high intensity, thus short-term relief is ideal and desired. However, distraction rarely solves the problem at hand. Problem solving is related to changing something in the environment but can also include resolving a problem through other strategies such as reappraisal (Wang & Saudino, 2011).

Escaping the situation is considered an avoidance emotional regulation strategy. In certain circumstances, such as an abusive relationship, leaving the relationship may be the best strategy. However, avoidance can have negative consequences. The overuse of avoidance in situations where it is not the best strategy can lead to poor long-term health (Aldao et al., 2010). Rumination is another strategy that can have harmful effects, commonly used by those with mental distress. Persistent thoughts, associated with negative emotions, increases the experience of negative emotions and negatively impacts health (Pena-Sarrionandia et al., 2015; Zawadzki, 2015; Kotsou, et al., 2011). However, rumination about the positive aspects of a situation can increase the duration and intensity of positive emotions.

Different strategies are effective for different situations; thus, a good understanding of the strategies and PMER can lead to positive outcomes.

### **1.3 Importance of Emotional Regulation**

Some of the core benefits of using these emotional regulation strategies, is to alter the interpretation and response, to both daily hassles, and life events, to have a more positive impact on health and happiness (Lyubomirsky, Sheldon and Schkade, 2005; Aldao, Nolen-Hoeksema, 2013). Daily hassles are the minor challenges of everyday life and can be predictable, such as traffic on the way to work, or unexpected such as spilt coffee. Life events refer to longer-term changes, such as bereavement. With the fast-paced lives of the Western world today, stress and daily hassles have become a significant problem with harmful short-term and long-term physical consequences, as well as contributing to mental distress (Snippe, Dziak, Lanza, Snyklíček, & Wichers, 2017; Piazza et al., 2013). One in five New Zealander's will experience mental illness in their lifetime (Human Potential Centre, 2015). Mental illness can develop from poor emotional regulation capability, intense and fluctuating emotions and a mismatched interaction between the intensity, duration and type of emotion for a situation (Mennin & Gross, 2015; Sheppes, Suir & Gross, 2015; Mennin, & Fresco, 2015). Emotional regulation strategies such as acceptance, and techniques to achieve acceptance such as mindfulness meditation, have shown to improve psychological well-being and significantly reduce stress, stressor-related rumination and negative emotions (Johnsen, 2013; Prakash, Hussain, & Schirida, 2015; Extremera, & Rey, 2015; Catalino, Arenander, Epel, & Puterman, 2017; Zawadzki, 2015; Boyle, et al., 2017; Kotsou, et al., 2011). Therefore, reducing perceived stress and daily hassles through emotional regulation will have positive outcomes for individual and societal health and well-being.

## **1.4 Previous Emotional Regulation Interventions**

Most previous research on emotional regulation training consists of a series of workshops delivered over numerous weeks, totalling 8-18 hours of face to face intervention. Such previous research has been supported with significant positive effects for enhancing emotional regulation, life satisfaction, subjective well-being, positive affect, relationship quality and reducing perceived stress, daily hassles, negative affect and depression (Leblanc et al., 2017; Nelis et al., 2011; Weytens et al., 2014; Quoidbach et al., 2015). This research has paved the way for greater acknowledgement of the significance of emotional regulation skills for psychological well-being.

Previous studies have included a variety of interventions in their emotional regulation training content. Research by Weytens et al., (2014), focused a six-session training on the Process Model of Emotional Regulation (PMER). Their intervention tested an integrative approach to positive interventions by teaching participants some specific strategies at each of the five stages of the PMER. For example, under the attention deployment (before) stage, imagine your best future self was a recommended strategy whereas at the (after) cognitive change component, keeping a gratitude diary was recommended. Their intention was to introduce a range of empirically supported interventions, from which participants could select which strategies appealed to them to practice. Their findings revealed well-being increased and depressive symptoms decreased indicating the PMER is one effective way of organising and delivering a range of positive interventions (Weytens et al., 2014).

Research by LeBlanc et al., (2017) took a difference approach with one introductory workshop consisting of an introduction to emotional regulation followed by three workshops focused on four specific strategies: expressive writing, mindfulness, self-talk and muscle relaxation. Despite significant differences, this study also showed significant changes with participants increasing in positive coping techniques maintained a year after the intervention.

Another training programme by Nelis et al., (2011) was considerably different again. Nelis and colleagues had six sessions focused on emotions: understanding emotions, identifying emotions, listening to others' emotions, expressing emotions, managing emotions and enhancing positive emotions. They also found their training significantly improved well-being and additionally, emotional regulation. This suggests that a variety of approaches may yield significant improvements on participants emotional regulation and well-being.

#### **1.4.1 Effective Interventions.**

Moreover, what makes an intervention workshop effective, is not just the interventions taught, but other factors, such as whether participants display lasting behaviour changes related to their new knowledge and skills and integrate what they have learnt into their everyday lives. Participants' ability to use what they learn in their training, soon after the training, is one factor that increases the effectiveness of a workshop intervention (Marra et al., 2011; Wilson, 2012; Denney-Koelsch, 2017; Rubin et al., 2014). Both education and the practice of new skills are important to elicit lasting change (Mikolajczak, 2009; Marra et al., 2011; Wilson, 2012). Therefore, this study builds on previous studies by not only focusing on the type of effective interventions used, but also focusing on workshop techniques to promote long-lasting behaviour change.

Another factor that makes an intervention workshop effective, is when participants can incorporate what they have learnt into their everyday lives (Falletta, 1998). If people attend a workshop, without maintaining positive outcomes two weeks and six weeks later, arguably, the workshop is pointless (Falletta, 1998; Neils et al., 2011). When trying to change behaviour, such as improving emotional regulation, the importance of ensuring new behaviours become habits is essential for long-term positive behaviour change. Regulation of emotions and social support has been found in recent studies to be important in predicting intention and initiation of new habits (Nowack, 2017). One of the best predictors of initiation

and maintenance of new behaviours is the perceived importance of a goal (Nowack, 2017). Other significant components that also affect the achievement of a goal include self-efficacy, perceived control, awareness of the disadvantages of behaviour changes, desirability, attainability, pairing a new behaviour with an existing habit, and mental contrasting (Berkman, 2018; Epton, Currie, & Armitage, 2017; Nowack, 2017). These components of goal setting affect whether an individual successfully creates and maintains a new habit.

This study included the use of goal setting, an empirically supported behaviour change technique, aimed at supporting participants to experience positive benefits at least six weeks after the workshop. Many theories and models support the efficacy of goal setting such as the theory of planned behaviour, which suggests the transfer of skills into everyday lives depends on participants' motivation to change, willingness to change and attitude to change (Ajzen, 1991). During the workshop intervention, participants were instructed to set a goal to practice emotional regulation after the workshop in a real-life setting to improve the likelihood of emotional regulation improvements in future situations. The perceived importance of participants' goals', pairing the new behaviour with an existing habit and mental contrasting were encouraged to enhance the likelihood goals related to emotional regulation are achieved after the workshop. In addition, a follow up booster email was sent at two weeks to provide social support, motivation and accountability for the goals set. An email booster was found an effective cost-effective follow-up in previous research by Nelis et al., (2011).

Finally, previous emotional regulation research tends to capture student populations and focus on longer 8-18hour workshop series (Nelis et al., 2011; Páez et al., 2013; Weyten et al., 2014). This study expands on previous research by targeting emotional regulation interventions in a general adult and workforce population and in a very brief three-hour workshop (Kotus et al., 2011). Longer interventions can face difficulties in capturing people



for a series of workshops and retain these participants across a series. Drop-out rates are problematic (Leblanc et al., 2017). No previous research could be found that investigates the effects of a brief, single session, three-hour intervention to enhance emotional regulation despite the popularity of such courses often used as professional development training tools due to their low cost and minimal time commitment. Brief, single session interventions are more concise and cost-effective than longer training designs. Short interventions require less resources which makes them more feasible to deliver from a funders perspective and increases the accessibility for participants to attend by requiring less of their time.

Previous education training interventions unrelated to emotional regulation, have shown it is possible to deliver an effective intervention in a single three-hour session (Bailey et al., 2017; Beach et al., 2018; Dadiz, Spear & Denney-Koelsch, 2017; Gratwick-Sarll, & Bentley, 2014; Villani & Kovess-Masfety, 2017; Windt et al., 2015;). Research also shows positive results for single session attentional bias modification (ABM) focused training (Gross, 2014). ABM techniques have shown changes in attentional responding to emotional information and thus contribute to emotional regulation. This suggests single session emotional regulation trainings could be effective (Gross, 2014).

## **1.5 Present Study**

The present study sought to develop and validate a practical, single session, three-hour brief intervention for the general population aimed at increasing emotional regulation ability and consequently enhancing well-being. As no training manual for teaching emotional regulation was found, the content of the intervention was informed by the PMER, strategies with supporting empirical evidence and using previous successful emotional regulation training outlines as a guide (Nelis et al., 2011; Leblanc et al., 2017; Weytens et al., 2014). The intervention was informed by and builds on decades of empirical evidence, concerning the effectiveness of emotional regulation strategies, enhancing the interventions' content

validity and scientific relevance. The current study placed emphasis on participants understanding the value of emotional regulation, believing in their ability to regulate their emotions, practising emotional regulation, and feeling motivated to test their new skills in real-life opportunities. The content is discussed in greater detail in the method section and outlined in Table 2.

Fourteen different measures were used to investigate improvements in emotional regulation (cognitive reappraisal, expressive suppression, acceptance, reappraisal, rumination, catastrophising and positive refocusing) and well-being (perceived stress, depressive symptoms, subjective happiness, life satisfaction, positive and negative affect and ability to handle daily hassles). Questionnaires were completed before, two weeks and six weeks after the intervention to measure behaviour changes. The use of two control groups allowed for comparison of scores of those receiving the intervention workshop and those receiving an alternative professional development workshop (active control group) and those receiving no intervention (waitlist control group).

As the benefits of emotional regulation are well supported by empirical evidence it was expected this study would find that emotional regulation can be taught, in three hours, with new skills being used within two weeks from the workshop, and still have a positive impact six weeks after the workshop. This study explores the usefulness of Gross' PMER in training, and a variety of emotional regulation strategies, as well as help detect the length of training time required to achieve positive outcomes. The implications for the effectiveness of a short course are considerable, providing the opportunity for far reaching delivering. A three-hour workshop is achievable for almost anyone to attend, and could be adapted to be taught in families, communities, schools, prisons and organisations. This could have nationwide positive impacts on New Zealand society, from a population with improved psychological well-being and life satisfaction.

### **1.5.1 Research Questions.**

1. Are participant scores higher for the intervention group on the following scales; emotional regulation (cognitive reappraisal, acceptance, reappraisal, positive refocusing); subjective well-being; life satisfaction; perceived ability to handle daily hassles; and positive affect, two weeks and six weeks after the intervention compared to before the intervention?
2. Are participant scores lower for the intervention group on the following scales; perceived stress; negative affect; depression and emotional regulation strategies (rumination, catastrophizing and expressive suppression) two weeks and six weeks after the intervention compared to before the intervention?
3. Are participant scores for both the active and waitlist control group relatively stable (illustrated by no significant differences between the scores) two weeks and six weeks after the workshop compared with before the workshop?
4. Is there a statistically significant difference between the change in the intervention group scores pre- and post-compared with no, non-significant or smaller changes in control groups scores?
5. Does increased emotional regulation mediate the relationship between the intervention workshop and all other dependent variables; subjective well-being, life satisfaction, positive affect, ability to handle daily hassles, perceived stress, negative affect, depression symptoms?

## 2 Method

### 2.1 Participants

The participants were 24 individuals who were recruited through a local Christchurch professional development organisation. 34 participants participated and completed the questionnaires; however, 10 participants did not complete one of the three questionnaires (pre, post or follow up) and were therefore excluded from the study. Of the 24 participants, 87.5% (n = 21) were female and 12.5% (n = 3) were male. The participants ranged in age from 22 years to 61 years. Most participants identified as New Zealand European 79.2% (n = 19). The sample were primarily an educated (66% held a bachelor's degree or higher) working population (75% employed), with a median income of \$30,000-\$70,000. Chi-squared tests were performed to determine significant differences between groups regarding gender, ethnicity, education, employment status and income level. A significant difference was only found for income between groups,  $\chi^2(8, N = 24) = 15.83, p = .045$ . Table 1, shows the mean differences between the groups. The means indicate the waitlist control group had significantly lower income than the other two groups. It is possible this could be due to the small sample size of the waitlist control group. ANOVA was performed to determine significant differences between groups for age and no significant difference was found. See Table 1 below for the full demographic descriptive statistics.

Table 1. *Demographic Descriptive Statistics across Conditions*

Sample		Intervention Group (n =11)	Active Control Group (n = 8)	Waitlist Control Group (n = 5)
N				
Age	Mean (Standard Deviation)	47.18 (15.18)	48.62 (10.03)	46.20 (14.56)
Number (Percentage)				
Gender	Female	10 (90.9%)	7 (87.5%)	4 (80%)
	Male	1 (9.1%)	1 (12.5%)	1 (20%)

<b>Ethnicity</b>	NZ European	9 (81.8%)	6 (75%)	4 (80%)
	Maori	1 (9.1%)	0 (0%)	0 (0%)
	Asian	1 (9.1%)	1 (12.5%)	1 (20%)
	Other	0 (0%)	1 (12.5%)	0 (0%)
<b>Education</b>	Certificate	2 (18.2%)	1 (12.5%)	0 (0%)
	Diploma	2 (18.2%)	1 (12.5%)	1 (20%)
	Bachelors	2 (18.2%)	4 (50%)	2 (40%)
	Postgraduate	4 (36.4%)	1 (12.5%)	1 (20%)
	Masters	1 (9.1%)	0 (0%)	1 (20%)
	Other	0 (0%)	1 (12.5%)	0 (0%)
<b>Employment</b>	Employed	9 (81.8%)	6 (75%)	2 (40%)
	Unemployed	1 (9.1%)	1 (12.5%)	1 (20%)
	Student	0 (0%)	1 (12.5%)	1 (20%)
	Self-Employed	0 (0%)	0 (0%)	1 (20%)
	Other	1 (9.1%)	0 (0%)	0 (0%)
<b>Income</b>	<\$30,000	0 (0%)	1 (12.5%)	3 (60%)
	\$30,000 - \$50,000	5 (45%)	2 (25%)	0 (0%)
	\$50,000 - \$70,000	4 (36.4%)	4 (50%)	0 (0%)
	\$70,000+	2 (18.2%)	0 (0%)	1 (20%)
	No answer	0 (0%)	1 (12.5%)	1 (20%)

## 2.2 Design

The study is a mixed design using group as the between-subject factor (intervention, active control and waitlist control) and time as the within subjects' factor (pre, post and follow-up). The study included three groups: an intervention group (IG), a waitlist control group (WCG) and an active control group (ACG). Participants were randomly assigned (RA) or self-selected (SS) to either the intervention group (IG: n = 11; RA: n = 5, SS: n = 6), or a waitlist control group (WCG: all RA: n = 5). A third group, an active control group (ACG: n = 8), consisted of participants attending other professional development courses, at the same local Christchurch organisation, also three hours in length. The intervention group were

invited to attend the intervention workshop on one of two dates in August, and the waitlist control group were invited to attend the intervention workshop after data collection was finished in September. As participants were randomly assigned to either the intervention group or waitlist group, this meant they had to attend the intervention workshop on that date. As some participants were randomly allocated into a group with a workshop date they could not attend they either had to be excluded from the research or self-select into the other group. Rather than deny participants access to the intervention, instead they self-selected into the other group. Although this may have affected the representativeness of the sample, it was a more ethical approach to the research. This resulted in some participants being randomly allocated and some being self-selected in the intervention group but did not affect the other groups. The active control group were not randomly selected for practicality reasons. Prior to the delivery of the workshop the intervention and questionnaire were informally piloted with the researchers' friends.

### **2.3 Materials: Questionnaires**

To measure the effect of the brief intervention workshop about emotional regulation, participants completed a questionnaire at Time1 (pre-workshop), Time 2 (two-weeks post-workshop) and Time 3 (six-weeks post workshop). The questionnaire was made up of two sections: emotional regulation scales and well-being scales. The emotional regulation section included seven different measures of emotional regulation made up of two different scales, Emotional Regulation Questionnaire (ERQ) and Cognitive Emotional Regulation Questionnaire (CERQ). The ERQ included two measures: cognitive reappraisal and expressive suppression. The CERQ included five measures (acceptance, reappraisal, rumination, catastrophising and positive refocusing). Details about each scale about described below from 2.3.1. The well-being section included seven different scales, measuring five different constructs. Stress was measured by the Perceived Stress Scale (PSS), depressive

symptoms were measured using the depression questions from the Depression, Anxiety and Stress Scale (DASS-21) and happiness was measured by two scales: the Subjective Happiness Scale and Satisfaction with Life Scale. Emotional state was measured using the Positive and Negative Affect Schedule (PANAS) and finally, ability to cope with daily hassles (DH) was measured by a single question. See Appendix 1 for the full questionnaire. Despite concern in the scientific community about the validity of self-report measures, research by Krueger & Schkdate (2008) found the reliability of a variety of subjective well-being measures to be good, with test-retest correlations of .50–.70. The authors concluded although the ratios are lower than other reliability ratios, these scores are probably sufficient to acquire information estimates for research on subjective well-being (Krueger & Schkdate, 2008).

### **2.3.1 Emotional Regulation Questionnaire (ERQ).**

This self-report questionnaire, developed by Gross and John (2003), is designed to assess individual differences in two emotion regulation strategies: cognitive reappraisal (considered beneficial) and expressive suppression (considered harmful). Each strategy is measured with 10 items. Participants answer on a 7-point Likert scale from “Strong Disagree” to “Strongly Agree.” An example item from the cognitive reappraisal subscale is: “When I want to feel more positive emotion, I change what I’m thinking about.” An example item from the expressive suppression subscale is: “I keep my emotions to myself.” Emotional regulation research is still developing and thus so are studies on the validity of the ERQ questionnaire, however current research shows the validity of the ERQ looks promising (Ioannidis & Siegling, 2015). Many studies have assessed the reliability of the scale, including across cultures, and found strong internal consistency (Enebrink, Björnsdotter & Ghaderi, 2013; Gouveia et al., 2018; Spaapen et al., 2013). The current study demonstrated

good internal consistency for both scales, cognitive reappraisal, ( $\alpha = .88$ ), and expressive suppression ( $\alpha = .78$ ).

### **2.3.2 Cognitive Emotional Regulation Questionnaire (CERQ).**

This self-report questionnaire developed by Garnefski et al., (2002), measures nine cognitive emotion regulation strategies to assess the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reaction. In the present study, only the five cognitive emotion regulation strategies that reflected the core content of the workshop were assessed (acceptance, reappraisal, rumination, catastrophising and positive refocusing). Each subscale includes four items, with separate subscales for each strategy. Participants are asked to indicate from almost “Almost Never” to “Almost Always” on a 5-point Likert scale for each statement. An example of one statement for the Positive Refocusing strategy is: “I think of nicer things than what I have experienced”. Previous research shows good validity and reliability for the CERQ ( $\alpha = 0.75 - 0.93$ ; Garnefski and Kraaij 2007; Feliu-Soler et al., 2017). The current study demonstrated good internal consistency, for each subscale acceptance ( $\alpha = .75$ ), reappraisal ( $\alpha = .90$ ), rumination ( $\alpha = .80$ ), catastrophising ( $\alpha = .88$ ) and positive refocusing ( $\alpha = .91$ ).

### **2.3.3 Perceived Stress Scale (PSS-10).**

The Perceived Stress Scale (PSS-10) questionnaire developed by Cohen et al., (1983) is a self-report measure of the degree to which situations are appraised as stressful. It is 10-item questionnaire, with 4 items reverse scored. Although the original scale asks participants to reflect on the last month, participants in this study were asked to reflect on the previous two weeks due to the two weeks follow up at Time 2. An example of an item which reflects a measure of stress is “In the last two weeks, how often have you felt nervous and “stressed”? Participants answered on a 5-point Likert scale ranging from 0 = Never, 4 = Very Often. The PSS-10 was chosen over the PSS-14 and PSS-4, due to its strong psychometric properties



(Lee, 2012). A review of the psychometric evidence of the Perceived Stress Scale examined in 12 studies found the PSS-10 an effective measure of stress with strong reliability ( $\alpha = 0.74 - 0.91$ ; test-retest,  $r > .70$ ; Lee, 2012). The current study demonstrated good internal consistency ( $\alpha = .89$ ).

#### **2.3.4 Depressive Symptoms.**

This questionnaire was based from Lovibond and Lovibond's (1995), Depression, Anxiety and Stress Scale (DASS-21). Although a 21-item questionnaire, only the seven depression questions from the DASS-21 were used to measure depression. It is a self-report questionnaire using a 4-point Likert scale to measure responses to negative emotion symptoms. Participants are asked to indicate how much a statement applies to them over the past two weeks on a scale ranging from 0 = Didn't apply to me at all, to 3 = "Applied to me very much or most of the time." An example of a depression statement item from the DASS-21 is "I felt that I had nothing to look forward to." The scale is suitable for tracking change over time. Previous research shows the DASS-21 is a reliable and valid measure (Oei et al., 2013). The current study demonstrated good internal consistency ( $\alpha = .86$ ).

#### **2.3.5 Subjective Happiness Scale (SHS).**

Lyubomirsky & Lepper's (1999), self-report questionnaire, comprises of four items on a 7-point Likert scale with the fourth item reverse coded. The SHS is designed to assess long-term subjective happiness. A higher score indicates a happier person. An example item from the scale is "In general I consider myself: Not a very happy person (1) A very happy person (7). The SHS is a psychometrically sound measure of subjective happiness, with previous research reporting high reliability and validity using this scale with five community samples over one year ( $\alpha = 0.79 - 0.94$ ; test-retest,  $r = 0.55-0.90$ ; Lyubomirsky & Lepper, 1999). Convergent and discriminant validity were also measured with adequate results to support

the validity of the scale (Lyubomirsky & Lepper, 1999). The current study demonstrated good internal consistency ( $\alpha = .89$ ).

#### **2.3.6. Satisfaction with Life (SWL).**

The Satisfaction with Life (SWL) questionnaire developed by Diener, Emmons, Larsen, & Griffin (1985) is a self-report measurement of life satisfaction using a 5-item questionnaire on a 7-point Likert scale. Participants are asked to indicate their agreement with a statement ranging from “Strongly Disagree” to “Strongly Agree.” An example statement from the scale is “The conditions of my life are excellent.” Acceptable levels of reliability have been found by numerous previous studies in a variety of cross-cultural populations (Diener, 1994; Galanakis et al., 2017; Maroufizadeh et al., 2016). The current study demonstrated good internal consistency ( $\alpha = .92$ ).

#### **2.3.7 Positive and Negative Affect Schedule (PANAS).**

The Positive and Negative Affect Schedule (PANAS) developed by Watson, Clark, & Tellegen, (1988) is a self-report measure of positive and negative affect to assess emotional state. The scale includes 20 words describing emotions, 10 are used for the subscale positive affect and 10 used for the subscale negative affect and both are measured on a 5-point Likert scale. Participants are asked to indicate the extent they felt this way over the past week. We choose to change this to past two weeks for consistency throughout the questionnaire. “Interested” is an example of one word from the positive subscale and “Distressed” is an example of one word from the negative affect subscale. The PANAS has been tested for reliability and validity among many international and various aged populations and revealed good reliability and validity (Crawford & Henry, 2004; Von Humboldt & Leal, 2017). The current study demonstrated good internal consistency for positive affect ( $\alpha = .92$ ) and negative affect ( $\alpha = .82$ ).

### **2.3.8 Daily Hassles.**

A question was included to ask participants to indicate on a 7-point Likert scale how well they feel they have handled daily hassles over the past two weeks. This was followed by a space for participants to comment if there had been a change in the participants' life they felt could have affected how they answered the questionnaire. The question was used to determine if a participant's perception of their ability to handle daily hassles changes over time and if there may be extraneous factors influencing their responses and thus the research results.

## **2.4 Procedure**

### **2.4.1 Ethics Approval.**

The study received ethical approval from the University of Canterbury Ethics Committee on Monday 9<sup>th</sup> July 2018 (see Appendix B).

### **2.4.2 Recruitment.**

Participants were recruited via a flyer that went out to a mailing list of people associated with the local Christchurch professional development organisation, a not-for-profit charitable trust. The flyer invited participants to attend a workshop on emotional regulation as well as contribute to research (see Appendix C). The mailing list was made up of people who previously attended or were interested in personal or professional development courses offered by the organisation. Of those who received the flyer, they also shared this amongst their colleagues, family and friends, therefore some participants were from the workforce and others were community-based participants. This organisation was chosen due to the credibility of the organisation as a professional development provider in Christchurch. The organisation has been functioning for over 20 years, delivering professional development about mental health and illness. The organisation has effective methods of advertising through Mailchimp, an email marketing service used by small businesses to a database of

2714 people. They have a reputable brand for delivering high quality short courses. This organisation was also useful allowing for easy access to a similar control group, by inviting participants from other three-hour courses to take part as active control group participants.

After receiving the flyer participants had to email the researcher to register their interest. Participants were then provided further information and asked for consent (see Appendix D). Following this, participants were randomly allocated into the intervention or waitlist control group through the Qualtrics randomisation feature. This meant the opportunity to attend the workshop in August (on one of two dates) or September (waitlist control group). Those that could not attend the workshop on the date randomly allocated could self-select into the other group (rather than denying the participants access to the intervention). The intervention participants were split over two streams (the same workshop delivered twice on two separate days) to allow up to 40 participants to register (20 per workshop).

Regarding recruitment of the active control group, four alternative three-hour workshops were identified that were being delivered about the same time (within a couple of months) as the intervention. Those who registered for the selected workshops received one email from the hosting organisation inviting them to participate in research (as per the organisations Terms and Conditions of registration) and were instructed to email the researcher if they were interested. The recruitment email for the active control group is shown in Appendix E. These participants were not randomly assigned for practicality reasons.

#### *2.4.2.1. Eligibility and Exclusion Criteria.*

Eligibility criteria included being older than 18 years, residing in New Zealand, and willingness to participate. Participants were only allowed to be in one of the three groups

(intervention, waitlist control, active control). Registration for the intervention/waitlist group would have been capped at 80 people, allowing for drop outs and incomplete questionnaires, with the goal of having 40 participants over the two groups. The active control group would have been capped at 40 participants. Participants were excluded from analyses if they did not complete all three questionnaires.

#### *2.4.2.2 Incentive.*

All participants were offered to go in the draw to win one of two vouchers to attend a free three-hour workshop of their choosing (expiring July 2019) with the hosting organisation, after completing all three questionnaires. The vouchers were used to entice active control group participants, although all participants were given an equal opportunity to win the vouchers. This was to provide the active control group with some external motivation to participate in the research. The vouchers were also included to motivate all participants to complete all three questionnaires, rather than just one or two. Each voucher was worth \$80 but could only be used towards a future workshop at the organisation stipulated.

#### **2.4.3 Workshop Intervention.**

The workshop content was developed utilising a wealth of credible empirical research already available on emotional regulation. After reviewing extensive literature and previous research on emotional regulation, the researcher developed the workshop intervention content by choosing a selection of information and evidence-based interventions appropriate for a three-hour workshop. The intervention workshop included eight modules which were intended to inform, educate and motivate participants to make positive behaviour changes to improve their emotional regulation ability and well-being. Module 1 and Module 2 covered understanding emotions. This introduction was guided by Nelis et al's., (2011) session 1 outline covering the importance of emotions, explanations of key concepts, and videoclips to illustrate the important of positive emotions.

Module 3 had two core purposes. First, to show participants how emotional regulation relates to minimising stress in daily lives. Participants had the opportunity to discuss and reflect on some of their stressors, daily hassles and triggers. This supports participants to see how the content relates to their personal lives and how they might be able to apply the emotional regulation strategies. Relevance is important for engagement and motivation (Martin & Downson, 2009). Second, Module 3 was included to support participants to develop an understanding of how and why stress arises which is valuable for motivating participants to use effective strategies to reduce stress (Hattie & Anderman, 2013).

Module 4 was about building self-efficacy and removing barriers to change. Participants often commented this was a key takeaway message for them and the video about neuroplasticity was critical to their learning that change is possible. Module 5 followed Weyton et al.,’s (2014) training outline, introducing the Process Model of Emotional Regulation and opportunities to change before, during and after an event. This provided participants with further understanding of when and how they can regulate their emotions. The current study covered considerably less detail than Weyton et al.,’s study (2014) due to the reduced time frame. This was followed by Module 6 introducing eight emotional regulation strategies commonly used and when in the PMER they can be used (Peña-Sarrionandia et al., 2015). There was emphasis placed on minimising suppression and increasing cognitive reappraisal.

Module 7 was about further building self-efficacy and practicing how to apply the strategies. It involved participants reflecting on times they have already successfully used emotional regulation strategies to improve an outcome. Then participants were asked to complete a worksheet for how they could use what they have learnt to improve future situations that are relevant to them. Module 8 concluded with goal setting, a valuable well-established behaviour change technique (Nowack, 2017). The core content was supported by

the researcher's knowledge and previous experiences regarding facilitation, adult education and learning techniques. The content included a variety of videos, pair-sharing, group discussion and exercise sheets. The workshop was reviewed by a psychotherapist, with experience delivering education in this field. The workshop was delivered by the researcher and supervised by the psychotherapist who reviewed the material. The workshop delivery and content were evaluated by participants (see Appendix F).

A booster email was sent to the intervention participants two weeks after the workshop as part of the intervention. The purpose of the email was to motivate participants to continue practising their emotion regulation interventions. It included an attachment with a summary of the key points from the workshop as a reminder of the key learnings and a refresher of the importance and value of the intervention (see Appendix G). The content of the workshop is outlined in Table 2.

Table 2. *Emotional Regulation Intervention Workshop Outline*

<b>MODULE 1</b>	<b>INTRODUCING KEY CONCEPTS</b>	<b>Time</b>
Introductions	<ul style="list-style-type: none"> <li>• Introductions</li> <li>• Purpose of Workshop &amp; Learning Goals</li> <li>• Outline of Workshop &amp; UC Research Details</li> </ul>	10minutes
Emotions	<ul style="list-style-type: none"> <li>• What are Emotions</li> <li>• Explanation of Emotional Regulation</li> <li>• The Modal Model of Emotion</li> </ul>	10minutes
<b>MODULE 2</b>	<b>MOTIVATION FOR CHANGE</b>	
Emotional Regulation	<ul style="list-style-type: none"> <li>• Function, Importance and Benefits of Emotions and Emotional Regulation</li> </ul>	10minutes
<b>MODULE 3</b>	<b>STRESS AND DAILY HASSLES</b>	
Daily Hassles	<ul style="list-style-type: none"> <li>• What are Daily Hassles?</li> <li>• How does Emotional Regulation relate?</li> </ul>	5minutes
Stress	<ul style="list-style-type: none"> <li>• How it Arises</li> <li>• How to Manage it</li> <li>• Types of Stress Responses</li> </ul>	5minutes
<b>MODULE 4</b>	<b>CHANGE IS POSSIBLE</b>	

Change is Possible: Beliefs & Self-Efficacy	<ul style="list-style-type: none"> <li>• Brain Plasticity</li> <li>• Personal Responsibility: You can alter your experience of emotions</li> </ul>	10mins
<b>MODULE 5</b>	<b>PROCESS MODEL OF EMOTIONAL REGULATION</b>	
Gross' Model	<ul style="list-style-type: none"> <li>• The Process Model of Emotional Regulation</li> <li>• Opportunities for Change</li> <li>• Personal Reflection</li> </ul>	10mins
<b>MODULE 6</b>	<b>STRATEGIES TO REGULATE EMOTIONS</b>	
Emotional Regulation Strategies	<ul style="list-style-type: none"> <li>• Acceptance</li> <li>• Cognitive Reappraisal</li> <li>• Distraction</li> <li>• Rumination</li> <li>• Problem-Solving</li> <li>• Avoidance</li> <li>• Labelling and Expression</li> <li>• Expressive Suppression</li> </ul>	40mins
<b>MODULE 7</b>	<b>PRACTICE</b>	
Other Strategies	<ul style="list-style-type: none"> <li>• Strengths – Previous Successes</li> <li>• Other Strategies</li> <li>• Practice Using the Strategies for Future</li> <li>• Worksheet Exercises</li> </ul>	20mins
<b>MODULE 8</b>	<b>GOAL SETTING</b>	
Goal Setting	<ul style="list-style-type: none"> <li>• Goal setting</li> <li>• Takeaway messages</li> </ul>	30mins

## 2.5 Data Collection and Analysis

Participants completed questionnaires assessing emotional regulation, subjective well-being, life satisfaction, positive and negative affect, perceived stress, daily hassles, and depressive symptoms. The questionnaires were distributed by email through Qualtrics at the following times: pre-test (Time 1) and post-test (Time 2: 2 weeks after the workshop for IG and ACG or 2 weeks after pre-test for WCG) and follow-up (Time 3: 6 weeks after the workshop for IG and ACG or 6 weeks after the pre-test for WCG). The questionnaires were the same at each time point, except for the demographic information only collected at Time 1.

There was a total of 14 dependent variables shown in Table 3. The independent variable was the intervention workshop. Data was collated from the online questionnaires, using Qualtrics, then extracted and analysed using Statistical Package for Social Sciences



(SPSS) software. The data was analysed using a mixed model repeated measures analysis of variance (ANOVA) to determine significant changes over time and between the means of the three groups. The between-subjects factor was group (Treatment Condition, Waitlist Control, Active Control) and within-subjects factor was time (Pre, Two-week, Six-week). Post-hoc pairwise comparisons were used to determine significant differences at Time 1 compared to Time 2 and whether these differences were maintained or enhanced at Time 3. Mediation analyses were going to be conducted however, due to the low participant numbers, the study did not have sufficient power to perform these analyses. This is further explained in the discussion.

### **2.5.1 Repeated measures ANOVA Assumptions.**

Consideration was given to the assumptions of repeated measures ANOVA to ensure it was the appropriate test. Firstly, the dependent variables were all continuous, interval variables. The between-subjects factor consisted of three different conditions (intervention, active and waitlist control group). The within-subjects factor (time) consisted of three related groups, meaning each participant had a score at each time point. Independence of observation was observed, the participants in each group were unique and did not communicate with other participants. Furthermore, there were no significant outliers in any conditions. The data for most dependent variables were approximately normally distributed. The Shapiro-Wilks test (W) was used to assess univariate normality. The full results can be seen in Appendix H. Violations occurred in the intervention group for daily hassles only, in the waitlist group for daily hassles and life satisfaction and in the active control group for cognitive reprisal, rumination, depressive symptoms, and positive and negative affect. Corrections were not made for violations in normality as ANOVA was the method of analyses and this is a relatively robust test against normality (Blanca, Alarcón, Arnau, Bono & Bendayan, 2017; Schmider, Ziegler, Danay, Beyer, Buehner, 2010). The Levene's test was used to assess for

homogeneity of variance. There was homogeneity of variance within each group and over time, except for violations in expressive suppression and positive affect. Corrections were not made for violations in homogeneity of variance which may mean the results are less stable.

Mauchly's test of sphericity was used to test the variances of the differences between the levels of the within-subject factor, which were found equal for each condition, except with negative affect and positive refocusing. Negative affect and positive refocusing violated the assumption of sphericity. Therefore, the Greenhouse-Geisser estimates were used for negative affect ( $\epsilon = 32.39$ ) and positive refocusing ( $\epsilon = 32.64$ ). This correction reduces the probability of Type 1 error. The results of the Mauchly's test of sphericity for all the dependent variables can be seen in Appendix H.

### 3 Results

This section presents the quantitative results from the questionnaires completed by all participants in each of the three conditions. Additionally, qualitative feedback is presented from some participants who shared supplementary comments within their online questionnaire or via email.

#### 3.1 Dependent Variable Differences at Baseline Across Conditions

At baseline an analysis of variance (ANOVA) did not show any significant differences between the groups for 7 of the 14 dependent variables (expressive suppression, acceptance, reappraisal, rumination, positive refocusing, life satisfaction and negative affect) across the three conditions (see Table 3). At baseline significant differences were found for the other half of the dependent variables (7 out of 14) (cognitive reappraisal, catastrophising, perceived stress, depressive symptoms, subjective happiness, positive affect and daily hassles) across the three conditions.

Table 3. ANOVA representing Differences at Baseline between three Conditions

Differences at Baseline between three conditions					
Variable	IG M(SD)	WG M(SD)	ACG M(SD)	F	Sig.
<b>Emotional Regulation Variables</b>					
Cognitive Reappraisal	4.57(.74)	4.33(1.20)	5.60(.99)	3.68	0.42*
Expressive Suppression	3.52(.92)	3.30(.74)	3.06(1.52)	.186	.831
Acceptance	3.05(.53)	3.30(.45)	2.94(.72)	.594	.561
Reappraisal	2.86(.68)	3.00(.79)	3.72(1.1)	2.39	.116
Rumination	1.73(.39)	1.80(.27)	2.19(.92)	1.39	.270
Catastrophising	2.89(.86)	2.35(.74)	1.34(.38)	10.96	.001*
Positive Refocusing	2.25(.69)	2.60(.95)	3.03(1.32)	1.44	.259
<b>Well-being Variables</b>					
Perceived Stress	3.29(.71)	3.98(.53)	2.75(.58)	5.78	.010*
Depressive Symptoms	1.64(.32)	1.77(.51)	1.14 (.17)	7.32	.004*

Subjective Happiness	4.44(.87)	3.95(1.80)	5.84(5.33)	6.45	.007*
Life Satisfaction	4.22(1.22)	3.44(1.32)	5.53(1.34)	4.54	.023*
Positive Affect	3.08(.72)	2.80(1.08)	4.18(.72)	5.99	.009*
Negative Affect	2.15(.71)	2.16(.59)	1.75(.81)	.821	.454
Daily Hassles	4.18(.87)	4.60(1.67)	5.87(.64)	6.59	.006*

All df = 2; Sig. = Significant differences\*; M = Mean at Time 1; SD = Standard Deviation; IG = Intervention Group; WCG = Waitlist Control Group; ACG = Active Control Group.

LSD post-hoc tests revealed that emotional regulation skills and cognitive reappraisal differed in the active control group (ACG) compared with the waitlist control group (WCG) and intervention group (IG). The ACG was significantly higher at baseline for cognitive reappraisal compared to both WCG ( $p=.048$ ) and IG ( $p = .030$ ). For catastrophising the ACG was significantly lower at baseline compared to the IG ( $p=.013$ ) only. This suggests the ACG may have had higher emotional regulation skills at baseline.

For the well-being variables, six of the seven measures had significant differences at baseline. For subjective happiness the ACG was significantly higher than the IG ( $p=.009$ ) and WCG ( $p = .001$ ). Additionally, for perceived ability to handle daily hassles the ACG was significantly higher at baseline than the IG ( $p=.002$ ). These differences suggest the ACG had overall higher well-being, as well as emotional regulation, at baseline compared to the other two groups.

The WCG also differed on some measures. For perceived stress the WCG was significantly higher at baseline than the IG ( $p=.003$ ) and ACG ( $p=.005$ ). For depressive symptoms the WCG was significantly higher at baseline than the IG ( $p=.035$ ) and ACG ( $p=.003$ ). For life satisfaction the WCG was significantly lower at baseline than the IG ( $p=.059$ ) and ACG ( $p=.006$ ). Finally, for positive affect the WCG was significantly lower at baseline than the IG ( $p = .015$ ) and ACG ( $p= .001$ ). This suggests that the WCG had poorer well-being at baseline compared to the IG and ACG with higher stress and depressive symptoms, as well as lower happiness and positive affect.

### 3.2 Quantitative Results: Repeated Measures ANOVA and Post-Hoc Tests

To investigate whether the intervention was effective, mixed model repeated measures analyses of variance (ANOVAs) were conducted to examine differences between the three conditions (intervention, active control and waitlist control) and over Time 1 (pre-intervention), Time 2 (2-weeks post intervention) and Time 3 (6-weeks post-intervention). The repeated measures ANOVAs testing Group (Intervention vs Controls) X Time (Time 1 vs Time 2 vs Time 3) were performed on each of the 14 dependent variables, using Time as the within-subjects factor and Group as the between-subjects factor. The analyses began with the emotional regulation measures, followed by the well-being measures. The means for the Emotional Regulation measures can be seen by group over time in Table 4.

Table 4. *Descriptive Statistics for Emotional Regulation Measures by Condition over Time*

Questionnaire Measure	Condition	Time 1 M(SD)	Time 2 M(SD)	Time 3 M(SD)
Cognitive Reappraisal (ERQ-CR)	Intervention Group	4.57(.74)	5.14(.61)	5.40(.75)
	Waitlist Control Group	4.33(1.20)	4.33(.72)	4.50(1.42)
	Active Control Group	5.60(.99)	5.35(1.22)	5.42(1.14)
Expressive Suppression (ERQ-ES)	Intervention Group	3.52(.92)	3.56(.95)	3.17(.83)
	Waitlist Control Group	3.30(.74)	4.05(1.36)	4.00(1.10)
	Active Control Group	3.06(1.52)	3.03(1.05)	3.19(1.08)
Acceptance (CERQ-ACC)	Intervention Group	3.05(.53)	3.02(.90)	3.05(.61)
	Waitlist Control Group	3.30(.45)	3.20(.99)	3.20(.96)
	Active Control Group	2.94(.72)	2.63(.79)	2.81(.76)
Reappraisal (CERQ-REAPP)	Intervention Group	2.86(.68)	3.07(.98)	3.25(.71)
	Waitlist Control Group	3.00(.79)	2.60(.65)	2.85(.96)
	Active Control Group	3.72(1.11)	3.63(1.26)	3.81(.94)
Rumination (CERQ-RUM)	Intervention Group	1.73(.39)	2.46(.63)	1.41(.422)
	Waitlist Control Group	1.80(.27)	2.30(.93)	1.40(.22)
	Active Control Group	2.19(.92)	2.59(.63)	1.36(.48)
	Intervention Group	2.89(.86)	1.55(.52)	2.16(.53)
	Waitlist Control Group	2.35(.74)	1.40(.34)	2.25(1.16)

Catastrophising (CERQ-CATA)	Active Control Group	1.34(.37)	1.28(.34)	2.22(.61)
	Intervention Group	2.25(.69)	2.30(.63)	2.89(.83)
Positive Refocusing (CERQ-REF)	Waitlist Control Group	2.60(.95)	2.00(.59)	2.25(.68)
	Active Control Group	3.03(1.32)	3.16(1.02)	3.16(1.15)

M = Mean. SD = Standard Deviation.

### 3.2.1 Cognitive Reappraisal.

The results of the repeated measures ANOVA, examining the interaction effects for cognitive reappraisal across group and time found a significant interaction,  $F(4, 42) = 3.57$ ,  $p = .013$ ,  $\eta^2 = .245$ . This shows there are significant differences in cognitive reappraisal scores between the groups over time, which means the effect of time depends on which groups the participants were in. There were no significant main effects for group  $F(2, 21) = 2.35$ ,  $p = .119$ ,  $\eta^2 = .176$ , or time,  $F(2, 21) = 1.97$ ,  $p = .151$ ,  $\eta^2 = .082$ . Figure 1 shows a comparison of the mean cognitive reappraisal scores by group over time. Figure 1 illustrates higher cognitive reappraisal scores for the intervention group over time. The active control group shows a slight reduction in cognitive reappraisal and the waitlist group a slight increase between Time 2 and Time 3.

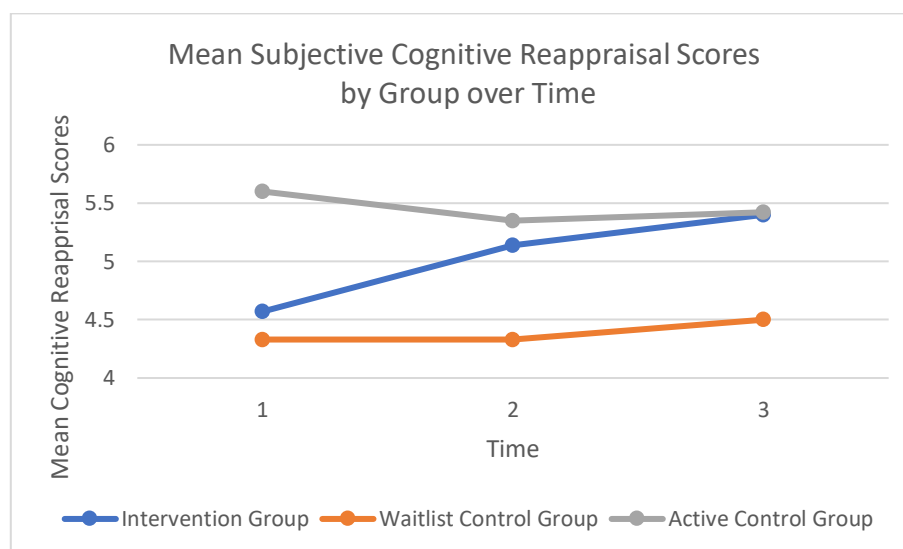


Figure 1. Comparison of Mean Cognitive Reappraisal Scores by Group over Time

The post-hoc pairwise comparisons shown in Table 5 support what is illustrated in Figure 1. Significant differences were found in the intervention group, at Time 2 and Time 3 compared with Time 1. No statistically significant difference was found between Time 2 and Time 3. The waitlist and active control group had no significant changes over time. This indicates the participants in the intervention group had higher cognitive reappraisal scores over time following the intervention.

Table 5. *Pairwise Comparisons for Cognitive Reappraisal*

<b>Group</b>	<b>Time</b>	<b>Time</b>	<b>Sig.</b>
Intervention	1	2	.005*
	1	3	.005*
	2	3	.200
Active Control	1	2	.279
	1	3	.389
	2	3	.801
Waitlist Control	1	2	1.00
	1	3	.544
	2	3	.595

### 3.2.2 Expressive Suppression.

The results of the repeated measures ANOVA, examining the interaction effects for expressive suppression across the groups and time show no significant interaction  $F(4, 42) = 2.59$ ,  $p = .049$ ,  $\eta^2 = .191$ , and no significant main effects for group,  $(2, 21) = 785$ ,  $p = .469$ ,  $\eta^2 = .067$  or time,  $F(2, 21) = 1.44$ ,  $p = .248$ ,  $\eta^2 = .061$ . Figure 2 illustrates the intervention group scores for expressive suppression became lower over time. Both the waitlist and active control group scores were higher over time for expressive suppression.

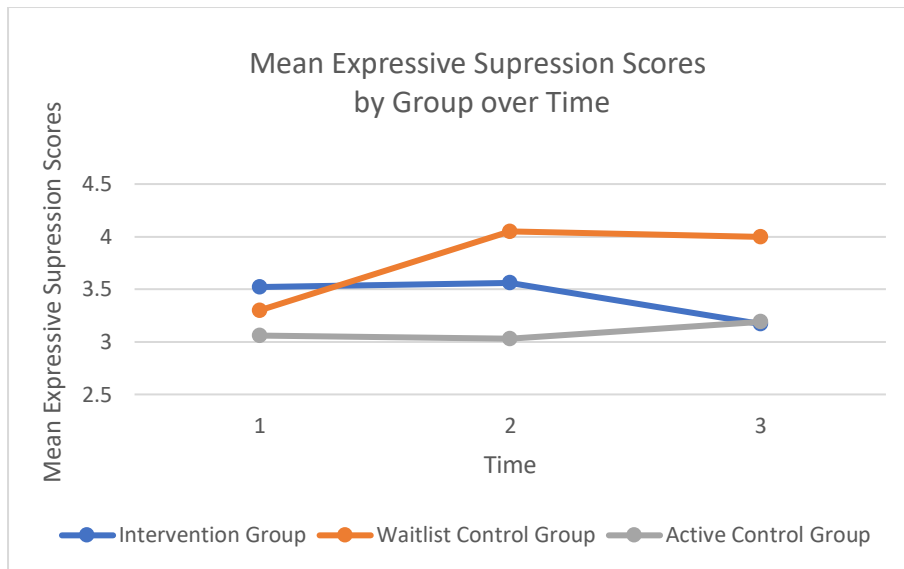


Figure 2. Comparison of Mean Expressive Suppression Scores by Group over Time

The post hoc pairwise comparisons shown in Table 6 revealed significant differences in the waitlist control group only, at Time 2 and Time 3 compared with Time 1. The intervention group results demonstrate non-significant decreases in expressive suppression over time, however, are very close to the significance cut-off of .05 at  $p=.051$ .

Table 6. Pairwise Comparisons for Expressive Suppression

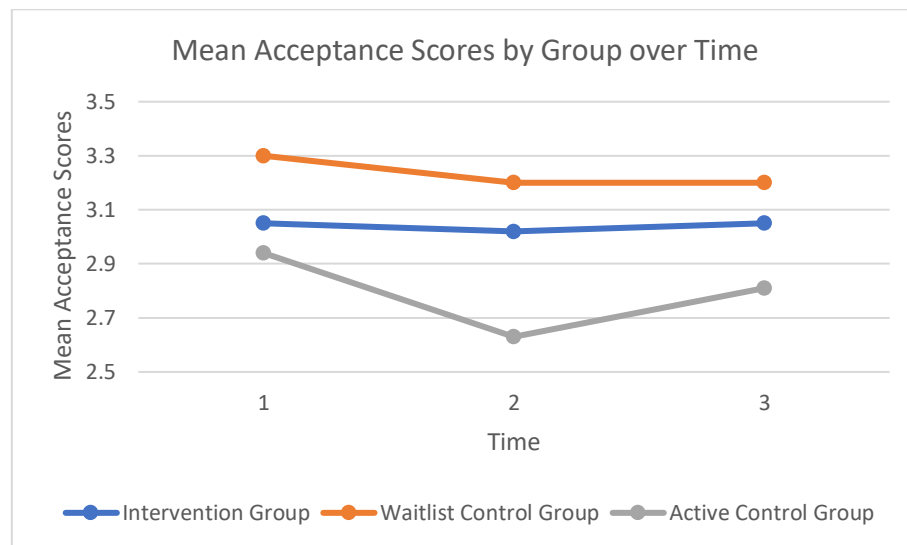
Group	Time	Time	Sig.
Intervention	1	2	.854
	1	3	.086
	2	3	.051
Active Control	1	2	.910
	1	3	.609
	2	3	.513
Waitlist Control	1	2	.041*
	1	3	.032*
	2	3	.868

### 3.2.3 Acceptance.

The results of the mixed model ANOVA, examining the interaction effects for acceptance across the groups and time show no significant interaction,  $F(4, 42) = 2.92$ ,  $p = .882$ ,  $\eta^2 = .027$  and no significant main effects for group  $F(2, 21) = 1.83$ ,  $p = .185$ ,  $\eta^2 =$



.148 or time  $F(2, 21) = .568$   $p = .571$ ,  $\eta p^2 = .026$ . Figure 3 illustrates stability over time for the intervention and waitlist group, and a slight change for the active control group. None of these changes were significant thus pairwise comparisons were not presented.



*Figure 3. Comparison of Mean Acceptance Scores by Group over Time*

### **3.2.4 Reappraisal.**

The results of the repeated measures ANOVA, examining the interaction effects for reappraisal across group and time revealed no significant interaction  $F(4, 42) = .941$ ,  $p = .450$ ,  $\eta p^2 = .082$ , or main effects of group,  $F(2, 21) = 2.21$ ,  $p = .135$ ,  $\eta p^2 = .174$  or time,  $F(2, 21) = 1.08$ ,  $p = .348$ ,  $\eta p^2 = .049$ . Figure 10 also shows increases in reappraisal for the intervention group. Both the active and waitlist control groups had decreases between Time 1 and Time 2 and increases between Time 2 and Time 3.

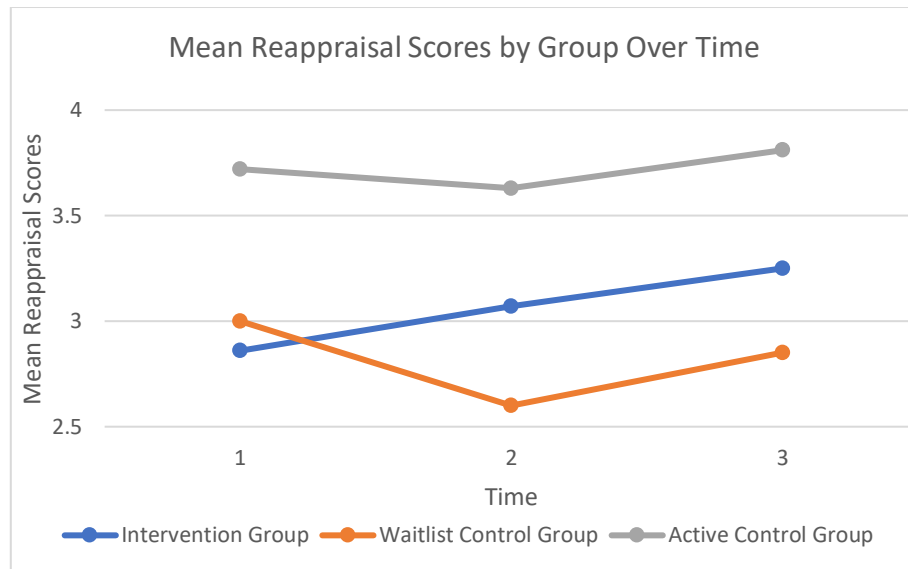


Figure 4. Comparison of Mean Reappraisal Scores by Group over Time.

Table 7 shows post hoc pairwise comparisons for reappraisal which indicates significant differences were found in the intervention group, between Time 1 and Time 3. This suggests the participants' reappraisal increased over time. The active control group and waitlist control group had no significant changes over time.

Table 7. Post-hoc Comparisons for Reappraisal

Group	Time	Time	Sig.
Intervention	1	2	.358
	1	3	.037*
	2	3	.367
Active Control	1	2	.717
	1	3	.650
	2	3	.426
Waitlist Control	1	2	.229
	1	3	.567
	2	3	.402

### 3.2.5 Rumination.

The results of the repeated measures ANOVA, examining the interaction effects for rumination across the groups and time show no significant interaction,  $F(4, 42) = .462$ ,  $p = .763$ ,  $\eta^2 = .042$ . There was a significant main effect of time  $F(2, 21) = 16.1$ ,  $p = .000$ ,

$\eta^2 = .439$ . This effect tells us that if we ignore group, participant scores differed significantly over time. No significant main effect was found for group  $F(2, 21) = .673$ ,  $p = .521$ ,  $\eta^2 = .060$ . Figure 5 illustrates all three groups changed over time in a similar way. All groups increased in rumination at Time 2 and decreased noticeably in rumination at Time 3.

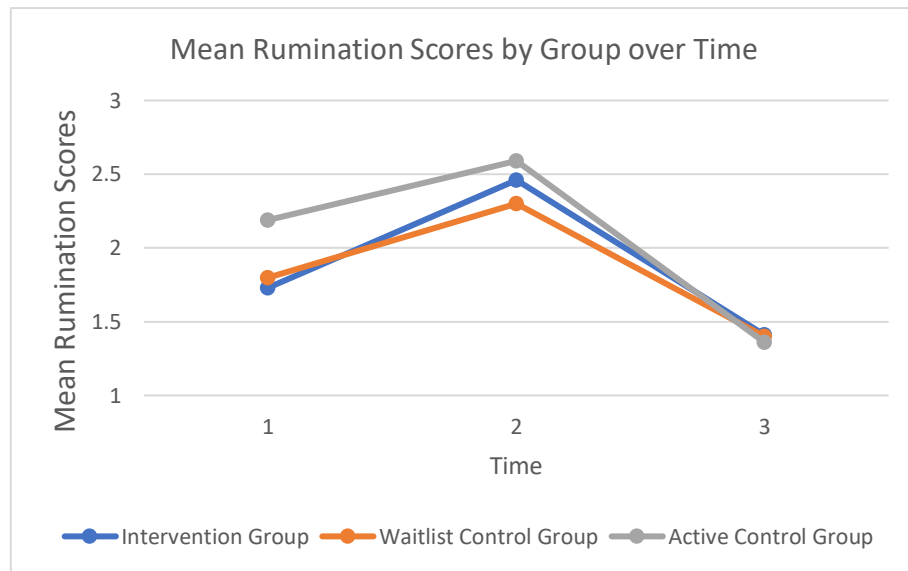


Figure 5. Comparison of Mean Rumination Scores by Group over Time

Post hoc pairwise comparisons shown in Table 8 indicate significant differences were found in the intervention and waitlist control group, at Time 2 compared with Time 1 and Time 3. The active control group also had significant differences over time at Time 3 compared with Time 1 and Time 2. This suggests something other than the intervention may have influenced these changes.

Table 8. *Pairwise Comparisons for Rumination*

Group	Time	Time	Sig.
Intervention	1	2	.009*
	1	3	.163
	2	3	.002*
Active Control	1	2	.182
	1	3	.005*
	2	3	.002*
Waitlist Control	1	2	.005*
	1	3	.234
	2	3	.002*

### 3.2.6 Catastrophising.

Table 9 shows the results of the repeated measures ANOVA, examining the interaction effects for catastrophising across group and time. The results show a significant interaction indicating there are significant differences in catastrophising scores between the groups and over time, which means the effect of time depends on which groups the participants were in  $F(4, 42) = 5.79, p = .001, \eta^2 = .356$ . The results also found two significant main effects, of time,  $F(2, 21) = 15.68, p = .000, \eta^2 = .428$  and group,  $F(2, 21) = 3.74, p = .041, \eta^2 = .263$ . Figure 6 shows all three groups changed over time in a similar way. Although all three groups had different scores at baseline, all scores reduced to a similar average at Time 2, and all increased at Time 3.

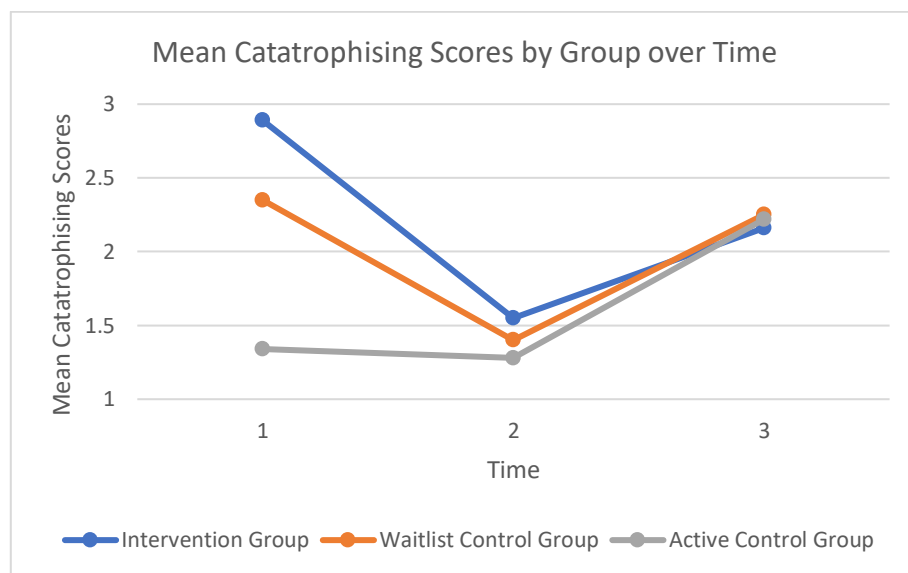


Figure 6. Comparison of Mean Catastrophising Scores by Group over Time.

Post-hoc pairwise comparisons were used to further interpret the results. Table 9 indicates significant differences were found in the intervention group, at Time 2 and Time 3 compared with Time 1. This indicates the participants' catastrophising significantly reduced over time. However, significant differences were also observed between Time 2 and Time 3 meaning the catastrophising scores increased significantly. The active control group also had

significant changes at Time 3 compared to Time 1 and Time 2. The waitlist control group also had significant changes between Time 1 and Time 2.

Table 9. *Pairwise Comparisons for Catastrophising*

Group	Time	Time	Sig.
Intervention	1	2	.000*
	1	3	.005*
	2	3	.019*
Active Control	1	2	.805
	1	3	.003*
	2	3	.004*
Waitlist Control	1	2	.007*
	1	3	.774
	2	3	.027

### 3.2.7 Positive Refocusing.

The results of the repeated measures ANOVA examining the interaction effects for positive refocusing across group and time show no significant interaction  $F(4, 42) = .189, p = .129, \eta^2 = .152$  and no main effects of group,  $F(2, 21) = 2.24, p = .131, \eta^2 = .176$  or time,  $F(2, 21) = 1.37, p = .266, \eta^2 = .061$ . Figure 7 illustrates a considerable increase in positive refocusing by the intervention group. The active control group had relatively stable scores over time. The waitlist control group scores reduced sharply then increased but remained worse at positive refocusing at Time 3 compared with Time 1.

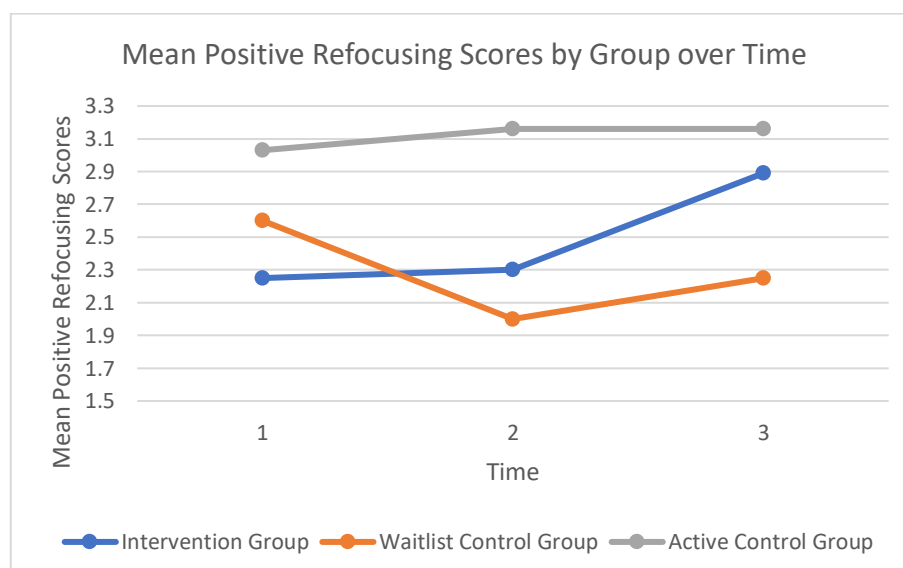


Figure 7. Comparison of Mean Positive Refocusing Scores by Group over Time.

Table 10 shows post hoc pairwise comparisons for positive refocusing which show significant differences were found in the intervention group, at Time 1 compared to Time 2 and Time 3. This suggests the participants' positive refocusing increased over time following the intervention. The active control group and waitlist control group had no significant changes over time.

Table 10. *Pairwise Comparisons for Positive Refocusing*

Group	Time	Time	Sig.
Intervention	1	2	.841
	1	3	.041*
	2	3	.004*
Active Control	1	2	.639
	1	3	.719
	2	3	1.00
Waitlist Control	1	2	0.85
	1	3	.429
	2	3	.373

In addition to the emotional regulation results, the well-being measures also revealed some significant changes. The means for the well-being measures can be seen over time and group in Table 11.

Table 11. *Descriptive Statistics for Well-being Measures by Condition over Time*

Questionnaire Measure	Condition	Time 1 M(SD)	Time 2 M(SD)	Time 3 M(SD)
Perceived Stress (PSS)	Intervention Group	3.29(.71)	2.76(.43)	2.55(.59)
	Waitlist Control Group	3.98(.53)	3.70(.69)	3.38(.65)
	Active Control Group	2.75(.58)	2.96(2.45)	2.89(.52)
Depressive Symptoms (DASS-21)	Intervention Group	1.64(.32)	1.30(.27)	1.20(.26)
	Waitlist Control Group	1.77(.51)	1.91(.91)	1.71(.69)
	Active Control Group	1.14(.17)	1.13(.21)	1.14(.23)

Subjective Happiness (SHS)	Intervention Group	4.44(.83)	4.84(.72)	5.11(.64)
	Waitlist Control Group	3.95(1.80)	3.90(1.45)	4.15(1.64)
	Active Control Group	5.84(.53)	5.94(.70)	6.06(.61)
Life Satisfaction (SWL)	Intervention Group	4.22(1.22)	4.98(.89)	4.98(.99)
	Waitlist Control Group	3.44(1.32)	3.48(1.20)	3.68(1.55)
	Active Control Group	5.53(1.34)	5.38(1.32)	5.45(1.06)
Positive Affect (PANAS)	Intervention Group	3.08(.72)	3.58(.49)	3.67(.42)
	Waitlist Control Group	2.80(1.09)	2.78(.76)	3.00(.83)
	Active Control Group	4.18(.72)	4.19(.67)	4.11(.50)
Negative Affect (PANAS)	Intervention Group	2.15(.71)	1.74(.35)	1.61(.29)
	Waitlist Control Group	2.16(.59)	1.98(.54)	1.54(.47)
	Active Control Group	1.75(.81)	1.66(.40)	1.71(.55)
Daily Hassles	Intervention Group	4.18(.87)	5.55(.52)	5.55(.52)
	Waitlist Control Group	4.40(1.52)	4.40(1.82)	4.40(1.51)
	Active Control Group	5.88(.64)	5.88(.64)	6.13(1.13)

M = Mean. SD = Standard Deviation.

### 3.2.8 Perceived stress.

The results of the repeated measures ANOVA revealed a significant interaction for perceived stress across groups and time,  $F(4, 42) = 3.57$ ,  $p = .014$ ,  $\eta^2 = .254$ . This indicates significant differences between the groups over time, where the effect of time depends on which groups the participants were in. The results also show two significant main effects supported by two relatively large effect sizes. There was a significant main effect of time,  $F(2, 21) = 5.66$ ,  $p = .007$ ,  $\eta^2 = .212$ . This means regardless of what group participants are in there have been significant changes across time. There was also a significant main effect of group,  $F(2, 21) = 6.32$ ,  $p = .007$ ,  $\eta^2 = .376$ , meaning regarding of time there are differences between the groups. Figure 1 shows a comparison of the mean stress scores by group over time. Perceived stress levels in the active control group slightly increased at first, and then slightly decreased over time, while perceived stress levels for the waitlist control group and the intervention group stress decreased over time.

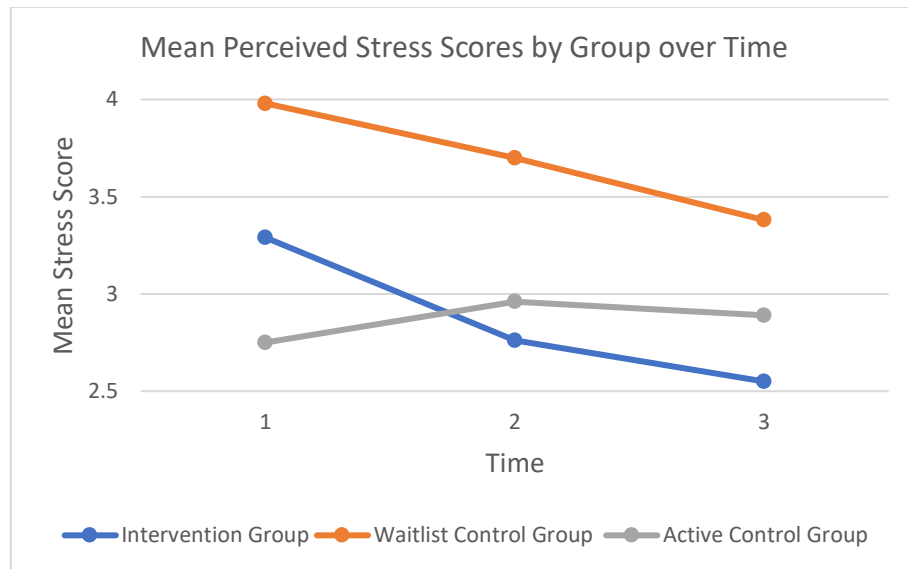


Figure 8. Comparison of Mean Stress Scores by Group over Time.

Additionally, post hoc tests with pairwise comparisons were conducted to explore which groups differed significantly and at which time points. The post-hoc tests in Table 12 show significantly lower perceived stress scores in the intervention group, at Time 2 and Time 3 compared with Time 1. Post hoc tests revealed no significant changes over time for the active control group. The waitlist control group did have a significant change at Time 3 compared to Time 1. This indicates the stress levels of the waitlist group reduced over time. However, the stress levels of the waitlist group were significantly higher at baseline than the intervention group and active control group (see Table 3 and Figure 8). Overall, these results show the intervention group has significantly lower perceived stress at Time 3 compared with both control groups and the intervention workshop could have possibly contributed to these scores.

Table 12. Pairwise Comparisons for Perceived Stress by Group over Time

Group	Time	Time	Sig.
Intervention	1	2	.005*
	1	3	.001*
	2	3	.147
Active Control	1	2	.308
	1	3	.541



	2	3	.639
Waitlist Control	1	2	.289
	1	3	.044*
	2	3	.123

\*Significant  $p < .05$

### 3.2.9 Depressive Symptoms.

Results of the repeated measures ANOVA, examining the interaction effect for depressive symptoms across group and time revealed a significant interaction and relatively large effect size which means there are significant differences in depressive scores between the groups and over time,  $F(4, 42) = 3.95$ ,  $p = .008$ ,  $\eta^2 = .273$ . Therefore, the change in depressive symptoms is likely a result of time depending on which conditions participants were in. There was also two significant main effects, one for time,  $F(2, 21) = 3.30$ ,  $p = .047$ ,  $\eta^2 = .136$  and one for group,  $F(2, 21) = 5.57$ ,  $p = .011$ ,  $\eta^2 = .346$ . To further investigate the changes, Figure 2 shows a comparison of the mean depression scores by group over time. Figure 2 shows depressive symptoms in the intervention group were lower over time, whereas the active control and waitlist control groups' depressive symptoms remained relatively the same between Time 1 and Time 3.

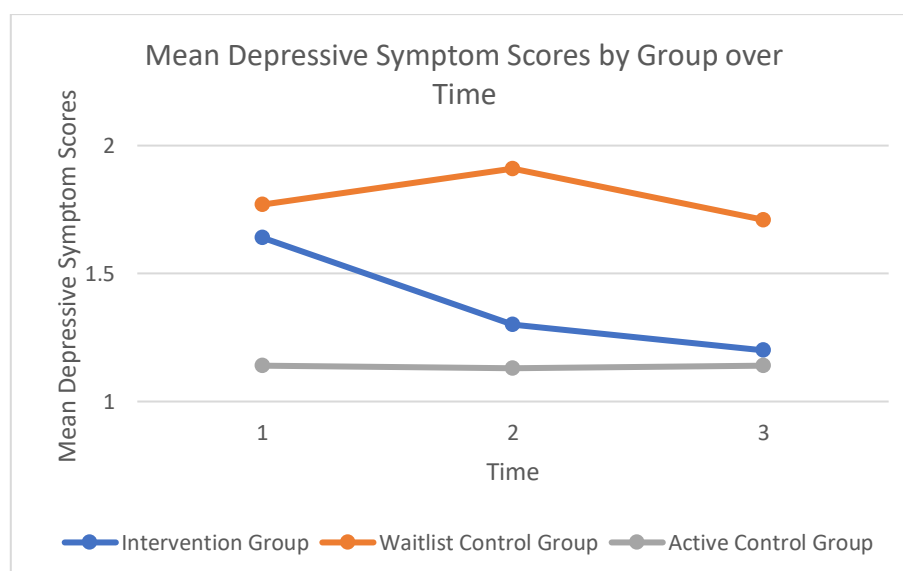


Figure 9. Comparison of Mean Depression Scores by Group over Time.

Consequently, post hoc pairwise comparisons were used to further interpret the results. Table 13 indicates significant differences were found in the intervention group, at Time 2 and Time 3 compared with Time 1. No statistically significant difference was found between Time 2 and Time 3. This indicates the participants' depressive symptoms reduced following the intervention and remained lower six weeks later compared with before the intervention. The active control group and waitlist control group had no significant changes over time.

Table 13. *Pairwise Comparisons for Depressive Symptoms by Group over Time*

Group	Time	Time	Sig.
Intervention	1	2	.004*
	1	3	.000*
	2	3	.189
Active Control	1	2	.887
	1	3	1.00
	2	3	.844
Waitlist Control	1	2	.374
	1	3	.667
	2	3	.093

\*Significant  $p < .05$

### 3.2.10 Subjective Happiness.

The results of the repeated measures ANOVA, examining the interaction effects for subjective happiness across groups and time demonstrated no significant interaction,  $F(4, 42) = 1.79$ ,  $p = .148$ ,  $\eta^2 = .148$ . However, the result did show two significant main effects. One significant main effect of time,  $F(2, 21) = 6.22$ ,  $p = .004$ ,  $\eta^2 = .220$ . This means regardless of what group participants are in there have been significant changes over time. There was also a significant main effect of group,  $F(2, 21) = 7.99$ ,  $p = .002$ ,  $\eta^2 = .421$ . This means regardless of time participant scores differ significantly between groups.

To further investigate the main effects, Figure 3 shows a comparison of the mean subjective happiness scores by group over time. Figure 3 illustrates three nearly parallel lines,

demonstrating no significant interaction. Figure 3 also shows subjective happiness increases over time for all three groups but more distinctively for the intervention group and only slightly for the active and waitlist control group.

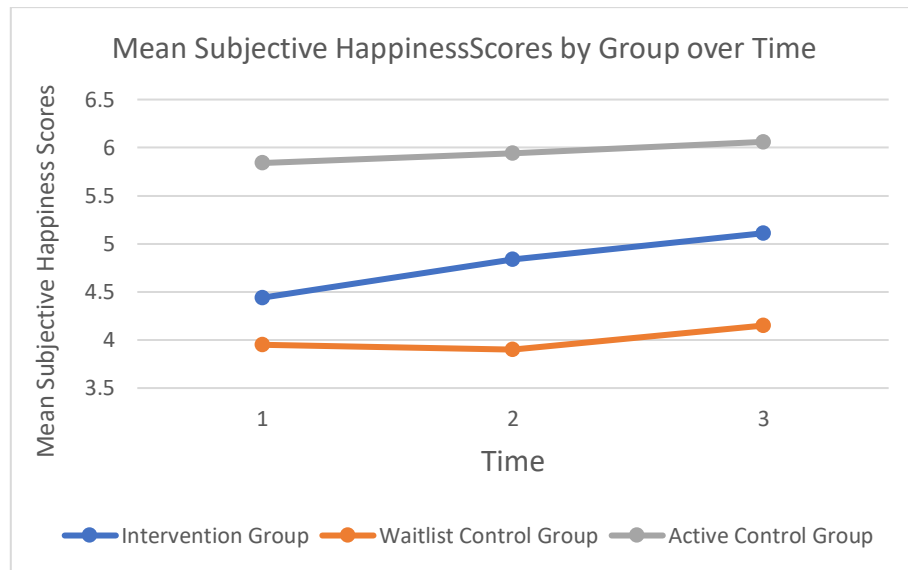


Figure 10. Comparison of Mean Subjective Happiness Scores by Group over Time.

Subsequently, post hoc pairwise comparisons were used to further interpret the results. Table 14 indicates significant differences were found in the intervention group, at Time 2 and Time 3 compared with Time 1 and between Time 2 and Time 3. This indicates the participants' subjective happiness continuously increased over time following the intervention. The active control group and waitlist control group had no significant changes over time.

Table 14. Pairwise Comparisons for Subjective Happiness by Group over Time

Group	Time	Time	Sig.
Intervention	1	2	.016*
	1	3	.000*
	2	3	.020*
Active Control	1	2	.652
	1	3	.254
	2	3	.353
Waitlist Control	1	2	.849

1	3	.406
2	3	.148

\*Significant  $p < .05$

### 3.2.11 Satisfaction with Life.

The results of the repeated measures ANOVA, examining the interaction effects for satisfaction with life across group and time show a significant interaction and relatively large effect size which means there are significant differences in satisfaction with life between the groups and over time  $F(4, 42) = 2.77, p = .039, \eta^2 = .209$ . The results also illustrate one significant main effect of group, with a large effect size,  $F(2, 21) = 4.58, p = .022, \eta^2 = .304$ , but no main effect of Time,  $F(2, 21) = 2.32, p = .111, \eta^2 = .100$ .

Figure 11 shows a comparison of the mean satisfaction with life scores by group over time which suggests the intervention group had a sharp increase in satisfaction with life two weeks following the intervention which was maintained four weeks later at time 3. The waitlist control group had a slight increase in satisfaction with life over time, whereas the active control remained relatively stable over time.

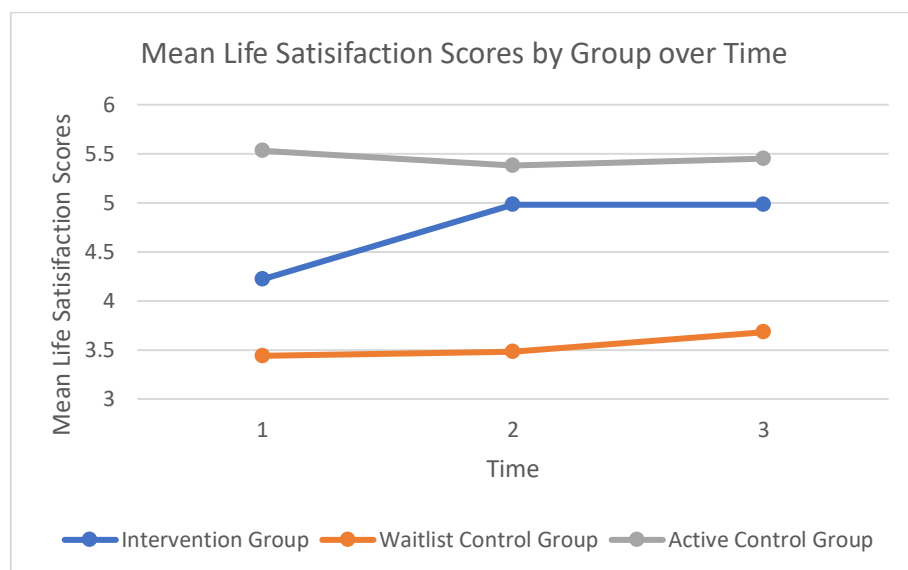


Figure 11. Comparison of Mean Satisfaction with Life Scores by Group over Time

Additionally, post hoc pairwise comparisons were used to further interpret the results. Table 15 indicates significant differences were found in the intervention group, at Time 2 and Time 3 compared with Time 1. There was no change at all between Time 2 and Time 3. This indicates the participants' satisfaction with life increased over time following the intervention and was maintained after the increase. The active control group and waitlist control group had no significant changes over time.

Table 15. *Pairwise Comparisons for Satisfaction with Life*

<b>Group</b>	<b>Time</b>	<b>Time</b>	<b>Sig.</b>
Intervention	1	2	.001*
	1	3	.003*
	2	3	1.00
Active Control	1	2	.512
	1	3	.781
	2	3	.753
Waitlist Control	1	2	.889
	1	3	.484
	2	3	.508

\*Significant  $p < .05$

### 3.2.12 Positive Affect.

Table 16 shows the results of repeated measures ANOVA, examining the interaction and main effects for positive affect across group and time. The interaction between group and time was not significant for positive affect  $F(4, 42) = .102$ ,  $p = .102$ ,  $\eta^2 = .245$ . However, there is a significant main effect of group,  $F(2, 21) = 8.12$ ,  $p = .002$ ,  $\eta^2 = .436$ . This means regardless of time participant scores differ significantly between groups. No significant main effect of Time  $F(2, 21) = 2.17$ ,  $p = 1.27$ ,  $\eta^2 = .094$ .

To further investigate the main effects, Figure 12 shows a comparison of the mean positive affect scores by group over time. Figure 12 suggests the intervention group and waitlist control group had an increase in positive affect over time, whereas the active control decreased slightly over time. However, the intervention group increased at both time points

and considerably between Time 1 and Time 2, whereas the waitlist control group only increased between time 2 and time 3.

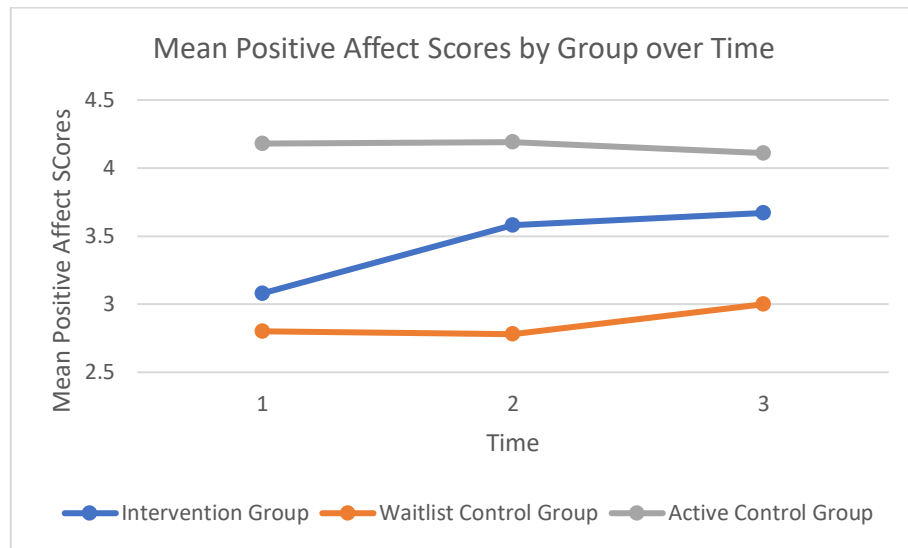


Figure 12. Comparison of Mean Positive Affect Scores by Group over Time

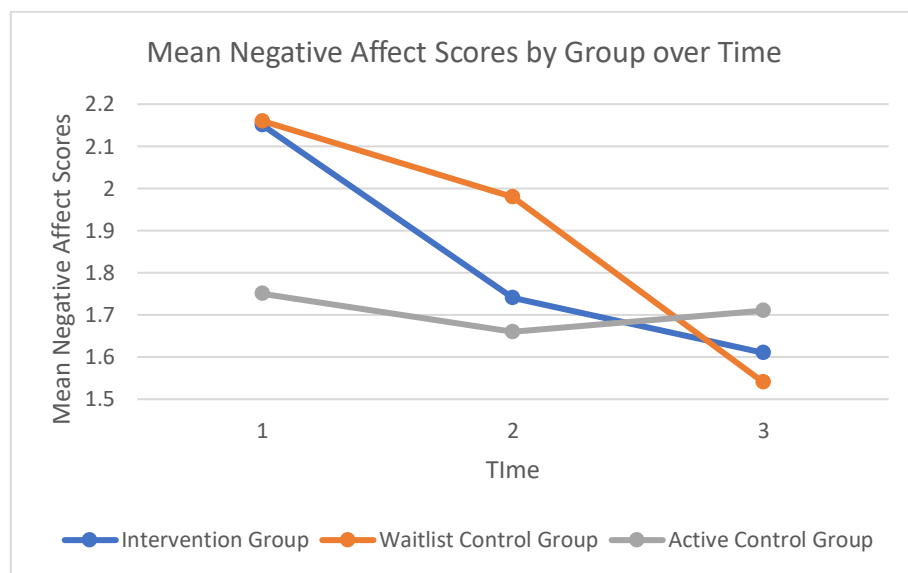
Accordingly, pairwise comparisons were used to further interpret the results. Table 16 shows significant differences were found in the intervention group, at Time 2 and Time 3 compared with Time 1. This indicates the participants' positive affect increased over time following the intervention. The active control group and waitlist control group had no significant changes over time.

Table 16. *Pairwise Comparisons for Positive Affect*

Group	Time	Time	Sig.
Intervention	1	2	.007*
	1	3	.007*
	2	3	.475
Active Control	1	2	.950
	1	3	.791
	2	3	.614
Waitlist Control	1	2	.937
	1	3	.505
	2	3	.249

### 3.2.13 Negative Affect.

Table 17 shows the results of the repeated measures ANOVA, examining the interaction effects for negative affect across group and time. The interaction between group and time was not significant for negative affect  $F(4, 42) = 1.71$ ,  $p = .165$ ,  $\eta p^2 = .140$ . The results do illustrate one significant main effect of time,  $F(2, 21) = 6.44$ ,  $p = .004$ ,  $\eta p^2 = .235$ . This effect tells us that if we ignore group, participant scores differed significantly over time. There was no significant effect of group  $F(2, 21) = .299$ ,  $p = .745$ ,  $\eta p^2 = .028$ . Figure 6 suggests the intervention group and waitlist control group both had a decrease in negative affect over time, whereas the active control only changed slightly over time, decreasing then increasing.



*Figure 13.* Comparison of Mean Negative Affect Scores by Group over Time.

Consequently, post hoc pairwise comparisons were used to further interpret the results. Table 17 indicates significant differences were found in the intervention group, at Time 2 and Time 3 compared with Time 1. No statistically significant difference was found between Time 2 and Time 3. The waitlist control group also had a significant decrease in

negative affect over time particularly at Time 3 compared to Time 1 and 2. The active control group had no significant changes over time.

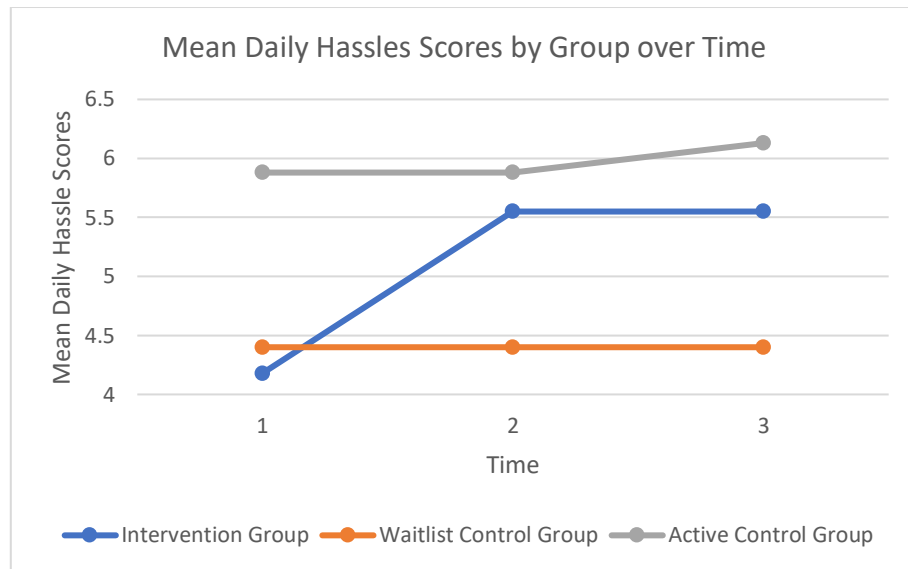
Table 17. *Pairwise Comparisons for Negative Affect*

<b>Group</b>	<b>Time</b>	<b>Time</b>	<b>Sig.</b>
Intervention	1	2	.033*
	1	3	.005*
	2	3	.241
Active Control	1	2	.681
	1	3	.885
	2	3	.690
Waitlist Control	1	2	.505
	1	3	.024*
	2	3	.010*

### **3.2.14 Daily Hassles.**

The results of the repeated measures ANOVA, examining the interaction effects for daily hassles across group and time show a significant interaction  $F(4, 42) = 4.84, p = .003, \eta^2 = .316$ . There were two significant main effects of group,  $F(4, 42) = 5.58, p = .011, \eta^2 = .347$ , and time  $F(2, 21) = 5.18, p = .010, \eta^2 = .198$ . Figure 14 illustrates an increase in perception to handle daily hassles by the intervention group at time 2 compared to time 1 and maintained at time 3. Figure 14 shows relatively stable scores over time for the active control group and the waitlist control group.





*Figure 14.* Comparison of Mean Scores for Perception to Handle Daily Hassles by Group over Time.

Table 18 shows pairwise comparisons for daily hassles which indicates significant differences were found in the intervention group, at Time 1 compared to Time 2 and Time 3. The active control group and waitlist control group had no significant changes over time. The results indicate participants in the intervention group felt they could handle daily stressors better both two weeks and six weeks following the intervention compared to before the intervention.

Table 18. *Pairwise Comparisons for Daily Hassles.*

Group	Time	Time	Sig.
Intervention	1	2	.000*
	1	3	.000*
	2	3	1.00
Active Control	1	2	1.00
	1	3	.477
	2	3	1.00
Waitlist Control	1	2	1.00
	1	3	1.00
	2	3	1.00

### **3.2.15 Summary.**

Analyses yielded significant Group X Time interactions for 5 of the 14 variables in the predicted direction: catastrophising, stress, depression, satisfaction with life and daily hassles. This interaction means significant changes were found between the groups and the post-hoc tests showed these changes mostly occurred within the intervention group. Four of the five interaction effects were found in the well-being measures. These results are interpreted in the discussion.

Additionally, the intervention group showed significant changes in the predicted direction for 12 out of the 14 dependent variables. The exceptions were expressive suppression which had a non-significant change in the predicted direction, and acceptance which remained the same between Time 1 and Time 3. There were also changes over time in the control groups for five variables: expressive suppression, rumination, catastrophising, perceived stress and negative affect.

### **3.3 Mediation Analyses**

It was predicted that an increase in emotional regulation skills would mediate the relationship between the intervention workshop and well-being measures: stress, depressive symptoms, happiness, positive and negative affect and daily hassles. However, mediation analyses were not conducted due to the low sample size. The results would not be stable with such low power. However, the mediation relationship is discussed in the discussion section.

### **3.4 Qualitative Results**

As well as completing the scales within the questionnaires, all participants from each group were also given the opportunity to write additional comments at the end of the questionnaires. Participants were also asked “Has there been a change in your life in the past two weeks that affected how you answered the questionnaire? If so, what?” A sample of qualitative responses to this question and additional comments include:

#### Control Group Participants at Time 2:

- Experienced a lot of new things and managed the stress
- [Changes affecting me are my] Daughter coming to live with me, stress selling house

#### Intervention Group Participants at Time 2:

- [I am] More organised. More positive about all aspects of life. More appreciative of what I have. More self-worth. Have been more confident and trusted my ability/judgements. Less stress in general Set goals and stuck to them pretty well.
- [I am] Being mindful of my limits and that it's ok to prioritise me. Support from partner. Strategies learnt at your talk.

#### Intervention Group Participants at Time 3:

- [I am] More driven, more able to manage stress, less low mood and tearfulness. I have consciously thought about how I can change my emotional response to difficult things that have arisen.
- I appreciated being able to do the workshop, I have experienced multiple extreme events in my life and I need all the help I can get. I am keen to be part of anything that may be helpful. Thank you.
- Most helpful. things happen in life, but I have had more perspective, thanks to you, and more confidence in my judgement. There has not been self-doubt
- Wasn't sure how I was going to make some of the strategies work for me when I left the workshop but have found ideas have come up for me when I needed them that were relevant and worked for me.

- Thank you for being someone that seems to care about the well-being of the human race.
- Such a worthwhile workshop. Really helpful

Furthermore, multiple participants commented experiencing issues with work, income and relationships that may have affected the way they answered the questionnaire.

Participants who attended the intervention also completed the organisations evaluation forms which included feedback back about the facilitator, the content, the learning environment and things that could be improved. These evaluation forms were not included as part of the thesis project for analyses, however are included in Appendix F. They revealed positive feedback about the workshop and the facilitator. This indicates the workshop was well-received and thus contributed to a positive intervention.

### **3.4.1 Two Week Booster Email Feedback.**

The intervention group participants were also given the opportunity after two weeks and three weeks to provide further qualitative feedback, just one participant sent some meaningful feedback as follows:

Intervention Group Participant A at Time 2:

- [Since the workshop] I have remembered some key things, and have made a few tiny changes, sort of related to my goal, which have made a difference. One is that my partner always leaves a knife on the bench after any food preparation - it is like he can't see it - he cleans everything else up, and wipes down the bench, but leaves the knife! It used to drive me nuts, and I would pick it up and say things like 'hello knife, what did you do to deserve being left behind?' Or - 'hello here's my friend the invisible knife' etc. Now I just quietly put it in the dishwasher, (with an internal sigh) as my desired outcome is a clear bench, not an aggrieved partner :)

Intervention Group Participant A at Time 3:

- Life has thrown a bit at me recently, and I feel I could have practised my emotional regulation more, but, even so, I have found it extremely helpful, and when I have used it, I feel the benefits. Yay for a quiet life!

## **4 Discussion**

The aim of this study was to investigate whether a brief three-hour intervention workshop could increase emotional regulation skills and improve well-being (perceived stress, depressive symptoms, happiness and perceived ability to handle daily hassles). The research included a total of 24 participants split into three groups, some participants were randomly selected, and some were self-selected. These groups included an intervention group with 11 participants who attended a three-hour workshop about emotional regulation, an active control group with 8 participants who attended various professional development workshops unrelated to emotional regulation (anxiety and depression in youth, trauma informed care) and a waitlist control group of 5 participants who attended no workshop at all. The participants completed initial questionnaires before their workshop and then follow-up questionnaires at two and six weeks after their workshop. The waitlist control group completed their questionnaires at the same time as the intervention group.

The aim of the intervention workshop was to teach people emotional regulation strategies they could use in their everyday lives which would consequently reduce stress, depressive symptoms and negative affect and increase happiness, positive affect and ability to handle daily hassles. Similar information and interventions taught had previously been shown effective at achieving this goal, but only in longer ongoing workshops, such as 8-18hour sessions delivered over six weeks or more. The findings of this study are critically analysed in the following section. The discussion covers: an interpretation of the results; the meaning and significance of the results; how the results contribute to this field and the practical and theoretical implications of effective short interventions (consequences for individuals' and New Zealand society). The discussion concludes with research limitations and future research recommendations.

#### **4.1 Demographic Characteristics and Manipulation Checks**

There were no significant differences in individuals' demographics (age, gender, ethnicity, education and employment) across the three conditions. However, income was significantly different for the waitlist control group compared to the other two groups. It is possible this was due to the small sample size of the waitlist group, as only four participants answered the income question.

#### **4.2 Overall Findings**

The purpose of this research was to determine if a short intervention workshop of three hours could have a lasting impact (at least 6 weeks) on participants emotional regulation skills and well-being. The results of the study show that a brief intervention workshop on emotional regulation may be able to increase emotional regulation skills and enhance well-being, however, solid conclusions cannot be drawn, based on the limitations of this research, particularly the small sample size.

Overall the analyses found significant interactions for five measures: stress, depression, satisfaction with life, daily hassles and catastrophising. This means for these variables, the groups' scores developed differently over time. Post-hoc tests revealed these differences were mostly demonstrating positive changes in the intervention group over time. The control groups showed minimal significant changes which supports the possibility the intervention may have contributed to the positive changes within the intervention group. However, the changes within the control groups and differences between the groups at baseline need further exploration which future research should investigate to develop sound conclusions.

#### **4.2.1 Research Questions Answered.**

There was a significant improvement in some emotional regulation skills in the intervention group: cognitive reappraisal, reappraisal, rumination, catastrophising and positive refocusing. However, acceptance and expressive suppression did not produce statistically significant changes. In saying this, there was a clear tendency towards significance for expressive suppression. There were also statistically significant improvements in the intervention group over time for all well-being measures: perceived stress, depressive symptoms, subjective happiness, satisfaction with life, positive and negative affect and perceived ability to handle daily stressors. Consequently, the results showed some support for four of the five research questions.

For the first research question participant scores were higher for the intervention group at either two or six weeks or at both time points following the intervention compared to before the intervention on the following scales; cognitive reappraisal, subjective well-being, life satisfaction, ability to handle daily hassles and positive affect. However, the scores were not higher for acceptance; one of the four emotional regulation scales predicted to increase. For the second research question participant scores were lower for the intervention group at either two or six weeks or at both time points following the intervention compared to before the intervention on the following scales; perceived stress; negative affect; depression; emotional regulation scales: expressive suppressive, rumination and catastrophising. The third research question was supported for 9 out of 14 variables. Participant scores for both the active and waitlist control group were stable two weeks and six weeks after the workshop compared with before the workshop on 9 of the 14 measures. Rumination, catastrophising, expression suppression, perceived stress and negative affect had significant changes within the control groups. For the fourth research question there was a statistically significant difference between the intervention group scores pre- and post-intervention for 8 of the 14



variables (excluding expressive suppression, acceptance, rumination, negative affect, perceived stress and catastrophising) and an absence of change in the scores of the control groups. Analyses were not performed to investigate the fifth research question about mediation, due to the low sample size.

#### **4.2.2 Effectiveness of the Brief Intervention.**

Despite the small size of the intervention group ( $n = 11$ ), on 12 of the 14 measures significant changes were reported in the expected direction. This indicates a strong effect size, which is supported by the results. The effect size was large in the intervention group for changes in well-being measures, but smaller for the emotional regulation skills. It is unclear why the emotional regulation changes were not as strong as the other measures. These results contrast with previous research by Nelis et al. (2011) who found large effect sizes of improved emotional regulation from an 18-hour training with 58 participants. LeBlanc et al. (2017) also found a large effect size of significance for reappraisal with an adult community population. Possible reasons for the difference could be the different content of the trainings, the length of the workshop (particularly, less time to practice strategies) or the small sample size of the current study.

Nevertheless, the results suggest that a three-hour workshop on emotional regulation may have a positive impact on a person's well-being: stress, happiness, depressive symptoms and ability to handle daily hassles. One explanation for the improved well-being of the intervention group following the intervention could be related to the workshop content. The content promoted positive interventions that have empirical evidence supporting their effectiveness at enhancing positive emotions, such as: cognitive reappraisal, mindfulness, goal setting and gratitude (Quoidbach et al., 2015). The content was structured around the Process Model of Emotional Regulation (PMER) and associated five strategies (Quoidbach et al., 2015). Previous research using the same model and strategies has had effective outcomes

(Weyten et al., 2014; Nelis et al., 2011). Furthermore, three recent studies that have delivered emotional regulation workshops ranging from 8-18 hours have found a variety of significant positive results such as increases in subjective happiness, satisfaction with life, emotional regulation and positive affect and significant reductions in depression symptoms, negative affect and perceived stress (Weyten et al., 2014; LeBlanc et al., 2017; Nelis et al., 2011). This suggests teaching a variety of emotional regulation strategies may produce significant positive changes for participants well-being.

These results are useful to advance the field of affective science by providing evidence that a three-hour intervention could be an effective alternative to longer, continuous trainings. A much shorter, brief intervention has significant advantages over longer interventions, such as, higher retention rates and requiring less resources to deliver. To ensure the current study is as effective as longer trainings, future research should further investigate how long changes are sustained after a three-hour workshop. This study revealed changes lasting at least six weeks, whereas previous research by Weyten et al. (2014) has shown maintenance of changes up to six months following an intervention. Furthermore, the study would need to be repeated with a larger sample size to be able to generalise from the conclusions.

#### **4.2.3 Control Group Changes.**

The results also suggest the intervention might have been effective because there were no significant changes in the scores of the active control group for 12 of the 14 variables. There were no significant changes in any of the well-being measures for the active control group and just two significant changes for the emotional regulation measures: catastrophising and rumination. However, these changes were reflected in all three groups, indicating something other than intervention influenced these results. This suggests simply attending a

professional development workshop in a group does not lead to an increase in emotional regulation skills or enhance well-being.

In further support of the intervention's effectiveness, the waitlist control group also showed minimal changes over time. Significant changes were seen in well-being measures perceived stress and negative affect and emotional regulation measures: catastrophising, rumination and expressive suppression. For perceived stress the waitlist control group produced a significant reduction over time, however started significantly higher at baseline (time 1) compared to the other groups. Therefore, the different levels of perceived stress at baseline may explain this result. Waitlist group participants commented within the questionnaire that stressful events were affecting them such as work, health and relationships. It is possible that these were resolved naturally without intervention over the two to six weeks which explains the change in stress. It is important to note that the intervention group had lower scores than both groups at the end of the six-week follow up.

Furthermore, all three groups experienced significant changes for rumination and catastrophising in the same direction. It is possible an external event related to Christchurch could have played a role in this. Finally, the changes in expression suppression showed an increase in suppression, which is the opposite of the desired change found in the intervention group, yet, a decrease in negative affect. As the waitlist control group only included 5 participants, this means a large change for one person would have substantially affected the mean score of the whole group. It is highly possible these results are due to the small sample size of five people. Overall, the use of these control groups, and minimal significant changes found within them over time, suggests the intervention may have contributed to the improved emotional regulation and well-being of the intervention group. Yet, these possible explanations, may not fully account for all the changes in the control groups. Therefore,

repeating the study, with a larger sample size, with a longer follow up would help to explain these findings and determine if these results are reliable.

#### **4.2.4 Lack of Change in Expressive Suppression and Acceptance.**

It was expected that there would be a significant change in expressive suppression and acceptance in the intervention group following the workshop, however this was not found. Both expressive suppression and acceptance were topics covered in the workshop. However, the topics were covered near the end of the second hour of the workshop, right before the break, and these segments were heavily lecture style. It is possible participants were not able to retain all the new information relevant to these topics. It would be beneficial to alter the workshop to a more participatory style for every module to support participants to retain new information.

On the other hand, it is also possible that the intervention may only produce a small effect size for acceptance and expressive suppression, therefore the sample size was too small to detect significant changes. Moreover, it may also take longer for people to learn certain skills such as to express their emotions more regularly and accept difficult situations more often, compared with reducing stress through new knowledge (Lally, van Jaarsveld, Potts & Wardle, 2010). Therefore, perhaps the change was not able to be captured within six weeks. Alternatively, a three-hour intervention may not be long enough to elicit significant change in some emotional regulation skills.

#### **4.2.5 Mediation Relationship Explained.**

It was predicted that emotional regulation would mediate the relationship between the intervention workshop and the well-being measures (stress, depression, happiness positive and negative affect and daily hassles). However, the analyses were not able to be performed due to insufficient participants numbers. Previous literature supports the prediction that

emotional regulation skills would mediate the relationship between the intervention and well-being (Nelis et al., 2011; Talaei-Khoei et al., 2017). Research by Nelis et al. (2011) showed an 18-hour training for improving emotional regulation consequently lead to enhances in psychological well-being. Additionally, Talaei-Khoei et al. (2017) found two emotional regulation strategies; cognitive reappraisal and express suppression, mediated the effect on positive and negative affect and physical functioning. It is strongly recommended future research undertakes mediation analyses with a larger sample size.

#### **4.2.6 Meaning of Qualitative Findings.**

Participants responses to the question “is there anything that could have affected your answers over the past two weeks” gave insight into how common events occur, and the type of events, that participants experience as stressful. Approximately half the participants in all three groups answered YES to the question at Time 2 and Time 3. This response begins to demonstrate how common it is to experience stress. Furthermore, because participants believe this stress was affecting their answers, this could suggest they believe their stress over the past two weeks is out of the norm. This is interesting given the responses, as it appears common for people to have these events in their lives. The events participants interpreted as stressful included relationships, work, housing, health and income. These events are relatively constant in people’s lives and although interpreted as potential extraneous factors that could affect their results it is also possible these kinds of events rarely go away. In saying this, the perception of stress might change regularly over time.

Participant A who responded via email at Time 2 and Time 3 (see 3.4.1) demonstrated key learnings that had occurred as a direct result of the intervention workshop. The participant described a scenario very similar to an example taught in the workshop and explained how they changed their response to implement a new strategy to both regulate their

emotions and change their behaviour. The participant also shared the potential for this to improve their personal relationship with their partner. These qualitative results are meaningful and significant, demonstrating specific workshop learnings that were implemented in the participants home-life.

#### **4.3 Practical and Theoretical Implications**

This study suggests that a brief intervention may be able to enhance emotional regulation skills and well-being. However, it is important to note causation cannot be drawn from this current study. What can be concluded from this study is that further investigation and future research (which considers the limitations of the study) is worthwhile because the results are promising and have significant practical and theoretical implications.

The first implication is that shorter interventions simply cost less. They require significantly less resources than longer interventions, not only for the development and delivery of the services, but also for people attending the workshops. A shorter intervention requires less personal time or time off from work which is valuable for organisations. Longer programmes experience considerable participant drop-out rates, whereas shorter courses have higher retention (Weyten et al., 2012; Page & Persch, 2013). Furthermore, a low-cost intervention is likely to have greater reach, because registration costs can be lower and funding may be more accessible and go further. As low-income families are at higher risk for mental illness, a low-cost intervention is more likely to reach those who need it compared with a high-cost intervention (Bøe, Overland, Lundervold & Hysing, 2012; Pascoe, Wood & Duffee, 2016; Sareen, Afifi, McMilliam & Asmundson, 2011; Santiago, Kaltman & Miranda, 2013; Troy, Ford, McRae, Zarolia, & Mauss, 2016). The value of a low-resource intervention, with potentially significant and long-term effects, should not be underestimated.

Furthermore, research shows that it costs less to prevent mental illness than it does to treat mental illness, therefore, this intervention could be cost-effective in multiple ways

(Jacka & Reavley, 2014). The link between poor emotional regulation skills and psychopathology is clear (Gross & Jazaieri, 2014). Equally, high emotional regulation abilities are linked to resilience and well-being (Eftekhari, Zoellner & Vigil, 2009; Tabibnia & Radecki, 2018). Therefore, supported by previous research that has had success reducing the risk of psychopathology (Duckworth, Steen & Seligman, 2005; Hu, 2014; Siegenthaler, Munder & Egger, 2012), this workshop has the potential to be used to prevent mental illness.

As well as prevention, this intervention may also have value in at-risk and clinical populations. Previous research has found emotional regulation strategies have been effective for the prevention of mental illness with non-clinical populations as well as individual clinical interventions with at-risk populations (Duckworth et al., 2005; Siegenthaler et al., 2012; Smyth & Arigo, 2009). Research by Bowman (2016) shows more than half the population in New Zealand prisons (62%) have mental illness and do not get sufficient treatment (compared with 20% of the general population experiencing mental illness) (Gottfried & Christopher, 2017; Reingle Gonzalez & Connell, 2014). Therefore, New Zealand prisoners are an example of one at risk population that may benefit from this intervention (Day, 2009).

As well as supporting prisons, hospitals may also benefit from such a cost-effective wide-reaching preventative initiative. There is evidence that suggests experiencing mental illness and negative emotions regularly leads to poorer physical health (Tabibnia & Radecki, 2018). Therefore, by preventing and improving mental health through emotional regulation training New Zealand could consequently save money in public services through happier and healthier people not accessing medical services as frequently. Many prisons and hospitals in New Zealand are at full capacity, with significant waitlists (Bagshaw, 2017; Coster, 2018). Although it may seem like a big leap from emotional regulation training to a reduction in

prison and health services, this is the kind of greater implications the training could have, if supported by extensive further research.

Moreover, not only do emotional regulation skills help prevent mental illness, they can also help people develop resilience and flourish (Troy, Shallcross, Brunner, Friedman & Jones, 2017; Tabibnia & Radecki, 2018). Strong emotional regulation skills, as well as happier and less stressed people, can lead to greater longevity, work satisfaction, enhanced relationships, better communication and increased resiliency (Danner, Snowdon & Friesen, 2001; Jeong, Aldwin, Igarashi & Spiro, 2016; Neils et al, 2011, Quoidbach et al, 2015; Ruiz-Aranda & Pineda-Galan, 2013; Tabibnia & Radecki, 2018). Therefore, this intervention could have quite extensive and meaningful impacts through prevention, treatment and enhancement of quality of life.

In further support of the projected power of this intervention, an example of the potential impact of just one emotional regulation skill, cognitive reappraisal, is detailed below. Cognitive reappraisal involves reappraising the situation in an adaptive way such as through acceptance or gaining a new perspective. Research is rapidly growing revealing a relationship between reappraisal and psychopathology (LeBlanc et al., 2017; Tabibnia & Radecki, 2018). People who are able to reappraise have less risk for psychopathology (Siegenthaler et al., 2012). Furthermore, teaching reappraisal can significantly reduce the use of maladaptive strategies such as rumination and catastrophising that are used by people experiencing psychopathology (Duckworth et al., 2005; Troy et al., 2017; Tabibnia & Radecki, 2018). Therefore, there are valuable implications from gaining just one new skill from the workshop intervention.

This kind of intervention is becoming more important, with such a demanding, fast-paced technologically advanced society. People are expected to do more in less time and



consequently feeling stressed, overwhelmed and unhappy (Snippe, Dziak, Lanza, Snyklíček, & Wichers, 2017; Piazza et al., 2013). Suicide rates in New Zealand are one of the highest in the OCED countries and one in five New Zealanders experience depression and anxiety (Ministry of Health, 2017). Enhancing emotional regulation skills can help to support people to overcome stress and lead happier lives (Tabibnia & Radecki, 2018). This study suggests one way to both reduce and prevent these problems is to further investigate the impacts of brief emotional regulation intervention workshops.

#### **4.4 Methodological Considerations**

Numerous methodological limitations impact the conclusions and generalisability of this study, which future research is encouraged to address.

##### **4.4.1 Sample.**

The sample size is one of the most significant limitations of this study. Just 24 people, 11 of which were in the intervention group were involved in the research. A small sample size limits the ability to reveal small effect sizes. Furthermore, a small sample size can decrease the power of the study and increase Type 2 error. Finally, a small sample limits the generalisability of the study as 24 people is not a fair representation of the workforce or community-based adult population in New Zealand.

In addition to this, the sample may also not have been a fair representation of the general population for three reasons. Participants voluntarily choose to participate in the research and attend the intervention. This means that perhaps there was a bias towards the people involved in the research being those who were already wanting to make changes and improve their lives. Furthermore, the population were recruited from the local professional development organisation and this was a sample partly chosen for practicality reasons due to resource limitations and easy access to participants interested in professional development.

Expanding to populations outside the workforce and extending recruitment further into the community would allow future studies to have better generalisability.

#### **4.4.2 Randomisation.**

The research was also limited by the number of people who were randomly selected versus self-selected. As some participants were allocated to workshop dates they could not attend they either had to be excluded from the research or self-selected into the other group. Rather than denying participants access to the intervention they self-selected into the other group. This limits the experimental manipulation and ability to draw conclusions from the results.

#### **4.4.3 Workshop Content and Measurement Validity.**

Although care was taken to ensure the questionnaire measured what participants were taught in the workshop, it is perhaps unrealistic to expect participants to be able to master six emotional regulation skills within a three-hour workshop with no follow up other than an email at two weeks. Therefore, the workshop may have been more effective if it focused on just a couple of emotional regulation skills which have a large impact on happiness and stress. Consequently, some of the measures may not have been valid as participants were not taught specifically about strategies such as catastrophising, nor did the participants have the opportunity to practice all of the skills within the three hours. The results of the study may have differed if the workshop focused on teaching less strategies with greater time to practice and gain confidence, rather than a large variety of strategies which were not all able to be practiced in the workshop.

Furthermore, the workshop content was also more academic than intended. Although the intervention was designed by the researcher, guided by previous evidence-based training outlines and research, and reviewed and approved by an experienced facilitator and psychotherapist, the content was ambitious. Participants were required to retain a lot of

information in three hours. Consequently, some participants may have had trouble concentrating, processing and absorbing all the new information, potentially reducing the effectiveness of the intervention. For future workshops, it is recommended that the content be reduced to make it easier to digest. Giving participants more time to reflect on what they have learnt and illustrating how they can apply it to everyday life is likely to be more useful than presenting academic-rich information of which only a small portion is retained. More participation and interactive exercises are recommended as opposed to lecture styled workshops.

#### **4.4.4 Significant results.**

Some measures, such as catastrophising, found results vary over time regardless of group. This suggests that scores may change over time even without an intervention. To determine if such behaviours can be influenced by an intervention and accurately measured future research, with a large sample size, should consider a longer pre- and post-questionnaire follow up. This would allow for further analyses of patterns over time to observe if significant change can be captured.

#### **4.4.5 Self-Report Measures.**

Other limitations include questionnaire length and self-report measures. The questionnaire took participants from 12 to 30minutes to complete. The questionnaire took participants from 12 to 30minutes to complete. This could have resulted in questionnaire fatigue. Although measures were taken to avoid this, such as; varying the response types (slider scale, multiple choice), including a percentage completed bar, and using shorter version of questionnaires, long questionnaires can affect retention and quality of responses.

Furthermore, there are always limitations and concerns with self-report questionnaires such as honesty, accuracy and validity (Krueger & Schkdate 2008). However, self-reporting instruments are commonly used when measuring subjective phenomenon's such as happiness and

stress. To maximise the validity and reliability of the final questionnaire, multiple and diverse scales were used to obtain single measures. For example, happiness was measured by the subjective happiness scale and satisfaction with life. Emotional regulation incorporated two different scales for cognitive reappraisal as well as five other positive and negative measures. Finally, not only was happiness captured but also stress, depressive symptoms and daily hassles. Using a variety of both positive and negative measures provides a more reliable picture as it enables verification of expectations, for example, the expectation that as happiness increases depressive symptoms decrease.

#### **4.5 Future Research**

As mentioned within the methodological limitations, future research could be improved by increasing participant numbers, broadening the populations included, (with tailored content to workforce, students, unemployed, offenders, community, at-risk, non-clinical, and youth) and using random selection exclusively. This would improve the power and generalisability of the study and is likely to reduce some the baseline differences between groups.

Further research could also make improvements by collecting additional pre- and post-questionnaires. This would allow researchers to observe patterns of change before the intervention and how this tracked over time following the intervention. Long-term follow up is also recommended to determine how long changes are maintained. The analyses should also include investigating mediation effects.

Furthermore, determining at what future time point participants stop improving, maintain a new baseline, or return to their pre-intervention baseline would help investigate the value of follow-up interventions. Although the concept of this study was to develop an effective single-session short intervention, if a follow up session significantly extended the

benefits and changes over time for participants this could be a very worthwhile consideration for future research.

Additionally, as well as knowing at what time point delivery of the intervention provides the most long-lasting benefits, it would also be worthwhile to determine the core elements of a workshop that result in an effective emotional regulation intervention. For example, determining what factors are necessary for change, such as, specific content, the facilitators style, the delivery method, the length of the workshop, and the participants' engagement, motivation and willingness to comply. Determining exactly which elements of the intervention are necessary and most effective for sustainable change would further contribute to the field.

Previous research suggests the answer may be a combination of these things but determining this specifically for the context of emotional regulation would be useful. Similar analyses would also be useful to determine the barriers for individual participants who do not experience significant positive changes to help future participants. Finally, future interventions should always be updated with most recent evidence-based effective information.

#### **4.6 Conclusion**

This research investigated whether a brief intervention workshop could produce statistically significant changes in emotional regulation skills and well-being while the two control groups observed no significant changes. The results supported the research questions for many of the variables, with several changes in the intervention group reaching significance and the control groups showing minimal changes. This suggests a brief intervention workshop may lead to improvements in emotional regulation skills and well-

being lasting at least six weeks. These results align with previous research that emotional regulation training can produce positive effects (LeBlanc et al., 2017, Weyten et al., 2014).

In saying this, this study needs to be replicated with consideration of the limitations to enhance the validity and reliability of the results. The numerous methodological limitations such as the sample size, selection method and varying baseline scores, do limit the generalisability of the study. Nevertheless, this research uncovers the potential for educating people about emotional regulation in a cost-effective way, that could have significant benefits for New Zealand society as a consequence of individuals that can better regulate their emotions and have positive mental well-being.

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## Appendices

### APPENDIX A QUESTIONNAIRE

These questionnaires were displayed in Qualtrics, mostly using the ‘multichoice’ function.

#### SUBJECTIVE HAPPINESS SCALE (SHS)

For each of the following statements/questions, please indicate the point on the scale that you feel is most appropriate in describing you.

1. In General I consider myself:

Not a very happy person - 1 2 3 4 5 6 7 - A very happy person

2. Compared to most of my peers, I consider myself:

Less happy - 1 2 3 4 5 6 7 - More happy

3. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?

Not at all - 1 2 3 4 5 6 7 - A great deal

4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?

Not at all - 1 2 3 4 5 6 7 - A great deal

#### SATISFACTION WITH LIFE SCALE (SWL)

Using the strongly disagree - strongly agree scale below, **indicate your agreement with each statement.** Please be open and honest in your responding.

1. In most ways, my life is close to ideal

Strongly Disagree - 1 2 3 4 5 6 7 – Strongly Agree

2. The conditions of my life are excellent

Strongly Disagree - 1 2 3 4 5 6 7 – Strongly Agree

3. I am satisfied with my life

Strongly Disagree - 1 2 3 4 5 6 7 – Strongly Agree

4. So far, I have gotten the important things I want in life

Strongly Disagree - 1 2 3 4 5 6 7 – Strongly Agree

5. If I could live my life over, I would change almost nothing

Strongly Disagree - 1 2 3 4 5 6 7 – Strongly Agree

## POSITIVE AND NEGATIVE AFFECT SCHEDULE (PANAS)

This scale consists of twenty words that describe different feelings and emotions.

Read each word then using the scale indicate from not at all to extremely **the extent you have felt this way over the past two weeks.**

Very Slightly or Not at All (1) A Little (2) Moderately (3) Quite a Bit (4) Extremely (5)

Interested	Irritable
Distressed	Alert
Excited	Ashamed
Upset	Inspired
Strong	Nervous
Guilty	Determined
Scared	Attentive
Hostile	Jittery
Enthusiastic	Active
Proud	Afraid

## PERCEIVED STRESS SCALE (PSS)

These questions ask about your feelings and thoughts during the last two weeks.  
For each case, **indicate how often you felt or thought a certain way.**

Never = 0, Almost Never = 1, Sometimes = 2, Fairly Often = 3, Very Often = 4.

1. In the last two weeks, how often have you been upset because of something that happened unexpectedly?
2. In the last two weeks, how often have you felt that you were unable to control the important things in your life?
3. In the last two weeks, how often have you felt nervous and “stressed”?
4. In the last two weeks, how often have you felt confident about your ability to handle your personal problems?
5. In the last two weeks, how often have you felt that things were going your way?
6. In the last two weeks, how often have you found that you could not cope with all the things that you had to do?
7. In the last two weeks, how often have you been able to control irritations in your life?
8. In the last two weeks, how often have you felt that you were on top of things?
9. In the last two weeks, how often have you been angered because of things that were outside of your control?
10. In the last two weeks, how often have you felt difficulties were piling up so high that you could not overcome them?

## EMOTIONAL REGULATION QUESTIONNAIRE (ERQ)

Although some of the questions may seem similar to one another, they differ in important ways. For each item, please **indicate the point on the scale** from 1 (strongly disagree) to 7 (strongly agree).

1. When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*.
2. I keep my emotions to myself.
3. When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.
4. When I am feeling *positive* emotions, I am careful not to express them.
5. When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.
6. I control my emotions by *not expressing them*.
7. When I want to feel more *positive* emotion, I *change the way I'm thinking about the situation*.
8. I control my emotions by *changing the way I think about the situation I'm in*.
9. When I am feeling *negative* emotions, I make sure not to express them.
10. When I want to feel less *negative* emotion, I *change the way I'm thinking about the situation*.

## COGNITIVE EMOTIONAL REGULATION QUESTIONNAIRE (CERQ)

Everyone gets confronted with negative or unpleasant experiences and everyone responds to them in his or her own way.

You are asked to indicate what you have generally thought, over the past two weeks, **when you experience negative or unpleasant events**.

Indicate from 1 ((Almost) Never), 2 (Sometimes), 3 (Regularly), 4 (Often), 5 ((Almost) Always) for the statements below:

### Acceptance

- I think that I have to accept that this has happened
- I think that I have to accept the situation
- I think that I cannot change anything about it
- I think that I must learn to live with it

### Rumination

- I often think about how I feel about what I have experienced
- I am preoccupied with what I think and feel about what I have experienced
- I want to understand why I feel the way I do about what I have experienced
- I dwell upon the feelings the situation has evoked in me

### Positive Reappraisal

- I think I can learn something from the situation
- I think that I can become a stronger person as a result of what has happened
- I think that the situation also has its positive sides
- I look for the positive sides to the matter

### Catastrophising

I often think that what I have experienced is much worse than what others have experienced  
I keep thinking about how terrible it is what I have experienced  
I often think that what I have experienced is the worst that can happen to a person  
I continually think how horrible the situation has been

### Positive Refocusing

I think of nicer things than what I have experienced  
I think of pleasant things that have nothing to do with it  
I think of something nice instead of what has happened  
I think about pleasant experiences

## DAILY HASSLES (DH)

**How well do you feel you have handled daily hassles over the past 2 weeks?**

(Daily hassle examples: traffic, misplacing or losing things, planning meals, too many responsibilities, not getting enough sleep, use of alcohol/drugs, trouble relaxing).

Indicate on the scale from 0 = Extremely poorly to 7 = Extremely well

How well I have handled daily hassles over the past 2 weeks

0	1	2	3	4	5	6	7

Has there been a change in your life in the past two weeks that affected how you answered the questionnaire? If so, what?

Yes / No. (Box for answers...)

## DEPRESSION ITEMS ONLY FROM (DASS-21)

Please read each statement and using the 0 -3 scale to indicate **how much the statement applied to you over the past two weeks**. There are no right or wrong answers. Do not spend too much time on any statement

1. I couldn't seem to experience any positive feeling at all
2. I found it difficult to work up the initiative to do things
3. I felt that I had nothing to look forward to
4. I felt down-hearted and blue
5. I was unable to become enthusiastic about anything
6. I felt I wasn't worth much as a person
7. I felt that life was meaningless

## APPENDIX B

### HUMAN ETHICS APPROVAL

#### HUMAN ETHICS COMMITTEE

Secretary, Rebecca Robinson  
Telephone: +64 03 369 4588, Extn 94588  
Email: [human-ethics@canterbury.ac.nz](mailto:human-ethics@canterbury.ac.nz)

Ref: HEC 2018/56



9 July 2018

Christina Bond  
Psychology  
UNIVERSITY OF CANTERBURY

Dear Christina

The Human Ethics Committee advises that your research proposal “Can a Three-Hour Workshop Enhance Emotional Regulation, Happiness and Positive Affect, and Reduce Perceived Stress, Negative Affect, Depression Symptoms and Daily Hassles?” has been considered and approved *subject to you confirming that recruitment of the control group participants did not take place during a workshop in 24 June 2018 prior to this approval.*

Please note that this approval is subject to the incorporation of the amendments you have provided in your email of 28 June 2018.

Best wishes for your project.

Yours sincerely

*R. Robinson*  
pp.

Professor Jane Maidment  
**Chair**  
*University of Canterbury Human Ethics Committee*




## APPENDIX C

### RECRUITMENT ADVERTISEMENT

# Overcoming Daily Stressors:

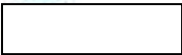
## Emotional Regulation Training to Increase Your Happiness



**Free Workshop**  
Refreshments Provided

**Facilitators**  
Christina Bond  
Wellbeing Facilitator  
Paula Partington  
Psychotherapist

**Workshop Dates**  
Tuesday 7 August  
5.00pm - 8.00pm  
Wednesday 8 August  
1.30pm - 4.30pm  
Tuesday 25 September  
3.00pm - 6.00pm

**Venue**  
  
Shirley, Christchurch

**Register Now**  
To attend please email  
[christina.bond@pg.canterbury.ac.nz](mailto:christina.bond@pg.canterbury.ac.nz)

**Do you feel stressed by daily hassles?**

- Does traffic frustrate you?
- Do you grumble about work when you come home each day?
- Is someone in your life bothering you?
- Do small things annoy you for a long time?
- Do endless household chores like dirty dishes, laundry and cooking feel overwhelming at times?



Daily hassles causing stress may seem trivial, yet when accumulated they can have detrimental effects on health, sleep and relationships. Emotions can seem uncontrollable at times, but it is possible to regulate them and change our emotional responses. Attend this workshop to learn skills to minimise your experience of negative emotions, and stress, and enhance your experience of positive emotions to improve your health and happiness.

**This free workshop provides the opportunity to:**

- Reduce stress through changing the way you think about and experience daily hassles
- Learn new skills to regulate your emotions and increase happiness
- Contribute to scientific research, through helping uncover the benefits of this workshop

**Research Component**  
This workshop is offered as part of a Master of Science thesis research project, coordinated by Christina Bond, postgraduate student at the University of Canterbury. Research requirements include voluntary participation in this three-hour workshop about emotional regulation and completion of three 10-15 minute online questionnaires, over six weeks. If you agree to participate you will be randomly allocated to attend a workshop in August or September.

For more information or to register email: [christina.bond@pg.canterbury.ac.nz](mailto:christina.bond@pg.canterbury.ac.nz)  
Subject "Research Workshop Information"



## **APPENDIX D**

### **INFORMATION SHEET AND CONSENT FORM**

#### **Information for Participants of Overcoming Daily Stressors and Emotional Regulation Workshop and Research**

Thank you for your interest in this workshop. Please read the information below then click next.

My name is Christina Bond, a postgraduate university student, studying towards a Master of Science degree. The purpose of this research is to measure the effects of a three-hour workshop intervention about emotional regulation. The research will measure effects on emotional regulation, happiness, positive and negative affect, depressive symptoms, perceived stress and daily hassles.

#### **Your Involvement**

If you choose to take part in this study, you will be involved in 1 of 2 groups

- 1) Intervention group - (those attending the emotional regulation workshop in July)
- 2) Waitlist control group - (those attending the emotional regulation workshop in September)

If you would like to attend the three-hour emotional regulation workshop, and consent to being part of this study you will be randomly assigned (i.e., by chance) to either the intervention group or wait-list group at the end of this survey. All participants, regardless of when they will do the workshop, will be asked to complete three short online questionnaires. You will receive an email with a link to the first questionnaire in July, followed by emails with links to the second and third questionnaire in August and September. Each questionnaire will take about 10-15 minutes to complete.

#### **Prize Draw**

After completing all three questionnaires you are eligible to go in the draw to win one of two MHERC vouchers to attend a three-hour workshop of your choosing. Winners will be drawn in October. Voucher are valid until July 2019.

#### **Your Rights**

Participation is voluntary, and you have the right to withdraw at any stage without penalty. You may ask for your raw data to be returned to you or destroyed at any point. If you withdraw, I will remove information relating to you. However, once analysis of raw data starts on 22 August 2018 it will become increasingly difficult to remove the influence of your data on the results.

Some of the questions in the survey may concern sensitive issues, such as your perception of your personal stress levels and feelings of happiness. If you do not feel comfortable answering these questions, or you experience distress, you can withdraw from the survey at any time. If you require further assistance, we have provided a list of potential sources of help at the bottom of this page.

#### **Ethics Approval**

*This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).*

#### **Research Results**

The results of the project may be published, but you are assured of the complete confidentiality of data gathered in this investigation: your identity is completely confidential. To ensure anonymity and confidentiality, you will only be identified by the researcher from pre-to-post questionnaires by the use of a unique code to match up your results between the questionnaires. Only myself (the researcher), and my supervisors will have access to this data. All raw data will be destroyed five years following the attendance at workshops. A thesis is a public document and will be available through the University of Canterbury Library. A summary of results of the project will be sent to every participant who attends the workshop and completes the three questionnaires.

## Contact Information

The project is being carried out the Mental Health Education and Resource Centre as a requirement for Master of Science, Thesis, by Christina Bond under the supervision of Katharina Naswall and Roeline Kuijer who can be contacted at [katharina.naswall@canterbury.ac.nz](mailto:katharina.naswall@canterbury.ac.nz). They will be pleased to discuss any concerns you may have about participation in the project.

Thank you very much for your participation in this research. Your contribution to this scientific research is greatly appreciated. **We hope you enjoy your workshop and find it beneficial.**

Many thanks,

Christina Bond ([christina.bond@pg.canterbury.ac.nz](mailto:christina.bond@pg.canterbury.ac.nz)) Ph. 027 3674702

Dr Katharina Näswall ([katharina.naswall@canterbury.ac.nz](mailto:katharina.naswall@canterbury.ac.nz)) Ph. 03 369 4332, Ext 94332

Dr Roeline Kuijer ([roeline.kuijer@canterbury.ac.nz](mailto:roeline.kuijer@canterbury.ac.nz)) Ph. 03 369 4362, Ext 94362

University of Canterbury | Psychology Department

If you feel distressed or wish to talk with someone about how you are feeling, please:

Contact your GP (Doctor) Free call or text **1737** anytime for support from a trained counsellor at Lifeline 0800 543 354 Search for a counsellor from the New Zealand Association of Counsellors accessible at <http://www.nzac.org.nz>

**If you agree to participate in the study, answer the question below, then click next to complete the consent form.**

I have read and understood the information above.

Yes/No

Please read the following statements and provide your electronic signature if you agree.

- I have been given a full explanation of this project and have had the opportunity to ask questions.
- I understand what is required of me if I agree to take part in the research
- I understand that participation is voluntary, and I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.
- I understand that any information or opinions I provide will be kept confidential to the researcher and her two supervisors and that any published or reported results will not identify the participants or their organisation. I understand that a thesis is a public document and will be available through the University of Canterbury Library.
- I understand that all data collected for the study will be kept in password protected electronic form and will be destroyed after five years.
- I understand the risks associated with taking part and how they will be managed.
- I understand that I can contact the researcher Christina Bond: [christina.bond@og.canterbury.ac.nz](mailto:christina.bond@og.canterbury.ac.nz) or supervisor Katharina Naswall: [katharina.naswall@canterbury.ac.nz](mailto:katharina.naswall@canterbury.ac.nz) for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch ([human-ethics@canterbury.ac](mailto:human-ethics@canterbury.ac)).
- My email address may be used to send me a summary of the results of the project

By signing below, I agree to participate in this research project.

x

SIGN HERE

clear

## APPENDIX E ACTIVE CONTROL GROUP RECURIMENT EMAIL

Dear Name,

Thank you for your registration for our “Working with Culturally and Linguistically Diverse People” workshop with Facilitator X and Facilitator Y on Thursday 19 July 2018. This year “host organisation” is supporting a student from the University of Canterbury, Christina Bond, to undertake some research for her Masters thesis. This email is to invite you to take part in the research as a control group participant.

If you consent to take part in the research, you will be required to fill in a total of three 10-15 minute online questionnaires, once before the workshop you are registered for and then two weeks and six weeks after the workshop.

**As part of the research, we are offering participants the opportunity to go in the draw to win one of two free three-hour “host organisation” workshops of your choosing in 2019.**

Thirty control group participants are required. The researchers would **be extremely grateful for your participation**. It is always a difficult task for researchers to gain enough participants to show robust results from their research.

In return for your contribution to science, Christina Bond will send you a summary of the results to demonstrate your supporting role in the research.

The purpose of the research is to measure the effects of a workshop Christina is delivering called “Overcoming Daily Hassles: Emotional Regulation for Increasing Happiness” on emotional regulation, happiness, stress, positive and negative affect and daily hassles.

Control group participants are a vital part of research to ensure any effects of the Emotional Regulation workshops aren’t observed in participants attending other varieties of workshops.

If you choose to participate, you can withdraw at any time. Christina will be available at the end of the workshop to answer any questions you may have.

If you are interested in participating or wish to find out more information follow this link: [Research Information](#) or email [Christina.bond@pg.canterbury.ac.nz](mailto:Christina.bond@pg.canterbury.ac.nz) – Subject: “Research Participation”

You have no obligation to participate in the research.

Thank you for your time and support.

Education Events Administrator

## APPENDIX F EVALUATION FORM SUMMARY INTERVENTION GROUP

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Content:</b>	<b>Strongly Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree Nor Disagree</b>	<b>Somewhat Agree</b>	<b>Strongly Agree</b>
The course content effectively met my learning needs				3	20
The content provided was useful and valuable				1	23
The length of the course was appropriate				4	20
The delivery of the course effectively met my learning needs				7	17
The facilitator was engaging				4	20
The facilitator communicated clearly				2	22
I was given the opportunity to ask questions				1	23
My questions were answered fully				3	21
The room was a comfortable learning environment				3	19

## QUALITATIVE EVALUATION RESPONSES

What were the key things you learnt from this course?	<ul style="list-style-type: none"> <li>• I learnt about emotional regulation strategies and that a situation does not have an emotional response.</li> <li>• Affirmed previous learnings, reminded me of the strategies that have worked in the past.</li> <li>• Strategy for strategies - Reason behind behaviour made clearer.</li> <li>• Stress is manageable.</li> <li>• Analyse situation and reappraise.</li> <li>• I am in control - It is up to me - I can change.</li> <li>• How important is it to look for the positive, your thinking can change your feeling and hence lower stress.</li> <li>• That we have the power to change situations/problems.</li> <li>• That I am in control of my emotions and have a choice. It is my choice as to how I view and react to situations.</li> </ul>
-------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<ul style="list-style-type: none"> <li>• Strategies for managing my stress - In particular more awareness around my control.</li> <li>• Many strategies can be used. Change is possible.</li> <li>• Opportunity and change emotion process and change emotion. That I can change the way I think!</li> <li>• Strategies for emotional regulation.</li> <li>• Neuroplasticity is possible and emotional regulation.</li> <li>• Different emotional regulation strategies.</li> <li>• We can't control some situations, thoughts or emotions but we can control how we deal with it.</li> <li>• Actually, being able to put a label on my emotions, something I've never really given thought to before.</li> <li>• Daily hassles have a bigger impact on health and happiness than larger issues.</li> <li>• You are not your thoughts and feelings - Neuroplasticity.</li> </ul>
How will you apply what you have learnt?	<ul style="list-style-type: none"> <li>• In my personal life and how I address situations.</li> <li>• Practice, re-look at what the stress is about.</li> <li>• Setting goals is important to make helpful reappraisals.</li> <li>• Continually reappraise negative situations and use breathing techniques to enable reappraisal.</li> <li>• Catch myself when I'm having negative thoughts and change them.</li> <li>• I will think about situations etc. more and will try to reframe them, look for the positive and try to change what I can.</li> <li>• Mindfulness and examining goals.</li> <li>• Making a goal for a stressful situation using reappraisal and breathing techniques.</li> <li>• Practice. Use more strategies.</li> <li>• Start towards goal. By attempting to use the strategies Christina has shown us.</li> <li>• By practicing daily.</li> <li>• Look at different strategies. In personal and professional life.</li> <li>• Practice! Photocopy emotional regulation strategies that I can use and remind myself to use. "What you think you become" - That's what I believe, it is up to me. As per goal.</li> </ul>
How could the course be improved to better meet your learning needs	<ul style="list-style-type: none"> <li>• Using videos and having conversations with others is a good change up of mediums, but room for growth in keepings</li> <li>• Probably a little longer on each facet.</li> <li>• Less reaching off your notes. Less concepts to take in? Slightly slower presentation for me personally.</li> <li>• Comfier environment otherwise really good.</li> <li>• Over 2 sessions?</li> <li>• No all good thanks.</li> </ul>

Comments?	<ul style="list-style-type: none"> <li>• Great course, great presentation :)</li> <li>• Christinas delivery was incredibly clear and examples readily available.</li> <li>• It would be helpful to have a followup session.</li> <li>• I think this workshop would be useful for people who are or in corrections facilities, drug and alcohol services etc.</li> <li>• Thank you for this course - It was helpful and enjoyable.</li> <li>• Maybe more hands on activities or interactions/games etc.</li> <li>• I really appreciate Christinas honesty and willingness for feedback, she is a strong facilitator!</li> <li>• Good mix of powerpoint, video, exercises</li> <li>• You are a natural presenter!</li> <li>• Great workshop! Thanks.</li> <li>• Excellent.</li> <li>• Awesome slides, presenter was informative and able to hold my attention.</li> <li>• Thank you! You did a great job presenting.</li> <li>• Excellent presentation. Thanks.</li> </ul>
Are you likely to attend another “host organisation” course in the future	<p>No = 0 Yes = 22</p>

## **APENDIX G TWO WEEK BOOSTER EMAIL KEY LEARNINGS**

### **1. Situations Aren't Emotional**

Our appraisal of a situation is what causes an emotion to surface.

### **2. You Can Change Your Emotional Responses**

It takes time and effort, like going to the gym, but with perseverance and practice you can have more positive outcomes in your day-to-day life. It is up to you to take responsibility for your thoughts and actions.

### **3. It Will Benefit You**

Experiencing positive emotions and regulating your emotions has significant advantages for your quality of life, longevity, physical health, happiness and relationships.

### **4. You Already Do It**

You already have experience regulating your emotions. It's time to make your desired outcomes habitual, in situations where you find it more difficult to regulate your emotions.

### **5. Keep At It**

Try not to be disheartened if you are finding it difficult to practice the strategies. This is normal. Keep trying. Most of us cannot run a marathon after 2 weeks practice, give it some more time and training.

### **6. Your Goal**

How is your goal coming along? Have you achieved it? Do you need some more time? Do you need to adjust it a little? Check in with your accountability person to overcome any barriers to achieving your goal. Once you have completed your goal be proud of your achievement.



## APPENDIX H ANOVA ASSUMPTION TESTS

Mauchly's test of sphericity for Dependent Variables		
Dependent Variable	Mauchly's W	Significance
Perceived Stress	.863	.229
Depressive Symptoms	.855	.208
Subjective Happiness	.782	.075
Satisfaction with Life	.955	.634
Positive Affect	.753	.058
Negative Affect	.703	.030*
Cognitive Reappraisal	.974	.762
Expressive Suppression	.962	.669
Acceptance	.782	.085
Reappraisal	.936	.515
Positive Refocusing	.713	.034*
Catastrophising	.980	.820
Rumination	.875	.264

### Assumptions Testing for Emotional Regulation Measures at Time 1

Questionnaire Measure	Levene F (p)	Condition	Shapiro-Wilks W (p)	Mean(SD)
Cognitive Reappraisal (ERQ)	.168(.847)	Intervention Group	.941(.527)	4.57(.74)
		Waitlist Control Group	.920(.426)	4.33(1.20)
		Active Control Group	.761(.038)	5.60(.99)
Expressive Suppression (ERQ)	4.15(.030)	Intervention Group	.897(.171)	3.52(.92)
		Waitlist Control Group	.831(.141)	3.30(.74)
		Active Control Group	.852(.100)	3.06(1.52)
Acceptance (CERQ)	1.28(.298)	Intervention Group	.923(.347)	3.05(.53)
		Waitlist Control Group	.863(.238)	3.30(.45)
		Active Control Group	.939(.604)	2.94(.72)
Reappraisal (CERQ)	1.62(.222)	Intervention Group	.967(.860)	2.86(.68)
		Waitlist Control Group	.987(.967)	3.00(.79)
		Active Control Group	.900(.291)	3.72(1.11)
Rumination (CERQ)	3.24(.060)	Intervention Group	.922(.332)	1.73(.39)
		Waitlist Control Group	.828(.135)	1.80(.27)
		Active Control Group	.747(.008)	2.19(.92)
Catastrophising (CERQ)	2.83(.081)	Intervention Group	.950(.642)	2.89(.86)
		Waitlist Control Group	.956(.777)	2.35(.74)
		Active Control Group	.871(.156)	1.34(.37)
Positive Refocusing (CERQ)	1.39(.270)	Intervention Group	.928(.390)	2.25(.69)
		Waitlist Control Group	.950(.735)	2.60(.95)
		Active Control Group	.956(.772)	3.03(1.32)

M = Mean. SD = Standard Deviation. IG df = 11, ACG df = 8, WCG df = 5.

### Assumption Testing for Well-being Measures at Time 1

Questionnaire Measure	Levene F (p)	Condition	Shapiro-Wilks W (p)	Mean(SD)
Perceived Stress (PSS)	.142(.868)	Intervention Group	.899(.180)	3.29(.71)
		Waitlist Control Group	.919(.521)	3.98(.53)
		Active Control Group	.968(.879)	2.75(.58)
Depressive Symptoms (DASS-21)	2.96(.074)	Intervention Group	.950(.649)	1.64(.32)
		Waitlist Control Group	.943(.685)	1.77(.51)
		Active Control Group	.815(.041)	1.14(.17)
Subjective Happiness (SHS)	7.39(.889)	Intervention Group	.899(.182)	4.44(.83)
		Waitlist Control Group	.942(.677)	3.95(1.80)
		Active Control Group	.901(.296)	5.84(.53)
Life Satisfaction (SWL)	.134(.875)	Intervention Group	.941(.527)	4.22(1.22)
		Waitlist Control Group	.761(.038)	3.44(1.32)
		Active Control Group	.920(.426)	5.53(1.34)
Positive Affect (PANAS)	.364(.004)	Intervention Group	.956(.715)	3.08(.72)
		Waitlist Control Group	.854(.207)	2.80(1.09)
		Active Control Group	.819(.045)	4.18(.72)
Negative Affect (PANAS)	.191(.827)	Intervention Group	.933(.446)	2.15(.71)
		Waitlist Control Group	.805(.090)	2.16(.59)
		Active Control Group	.728(.005)	1.75(.81)
Daily Hassles	3.05(.069)	Intervention Group	.742(.002)	4.18(.87)
		Waitlist Control Group	.810(.037)	4.40(1.52)
		Active Control Group	.881(.314)	5.88(.64)

M = Mean. SD = Standard Deviation.